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NASHVILLE JOURNAL

OF

MEDICINE AND SURGERY

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INDEX TO VOLUME XVI.

Acute Dysentery—A Contribution toward the Natural History of Acute Dysentery; consisting of a Report of Ten Cases observed without Medicinal Treatment 155
Albumenuria, Phosphates in 375
American Medical Literature—History of 357
Anæmia 342
Anatomy and Physiology: An Address by Prof. Cleland 213, 247
Anthrax, malignant 303
Apomorphine 119
Ascites—Recovery, after Tapping one hundred and thirty-three times. 175

Blood-Letting 120
Blood-Letting, fear of 124
Blood-Letting, Considered as a Therapeutic Agent—An Address by Prof. S. D. Gross 75
Blood, Red Globules of the, Concerning the rapid Regeneration of ... 44
Book-Notices—
Alimentation, and the Gastro-Intestinal Disorders of Infants and Young Children 254
Annual Oration, by Joseph M. Toner, M.D. 255
A Study of the Normal Movements of the Unimpregnated Uterus .. 255
Consciousness in Evolution 256
Cyclopædia of the Practice of Medicine 125, 255
History of the Small-Pox Epidemic in the City of Mobile, 1874–75. 252
Manual of Diet in Health and Disease 126
The Significance of Paleontology 256
Vision—Its Optical Defects, and the Adaptation of Spectacles 250
Books and Pamphlets Received 63, 125, 191, 250
Bowling, Prof. W. K., Retirement of, from the Editorial Chair 52
Breckinridge, Gen. John C.—Letter from Lewis A. Sayre, M.D 53
Bronchial Glands in Children, Enlarged, Diagnosis of 338

Digitized by Google

Carbolic Acid—The Subcutaneous Injection of Carbolic Acid as an Anæsthetic and Anti-Neuralgic 241
Cerebro-Spinal Fever 179
Chloroform, Death under 35, 154
Chloroform—An Antidote to 185
Chloroform—The influence of Chloroform on Ferments 245
Clinical Teaching 188
Clinics held during the Session of 1874-75, in the Medical Department of the Nashville and Vanderbilt Universities. By Prof. P. F. Eve. 142

Dental Education 204
Dentistry as a Profession 318
Digitalis 185
Diphtheria, The Pathology of 244
Diphtheritic Sore Throat 184
Dugas' Pathognomonic Sign 123
Dysmenorrhœa 308
Dysmenorrhœa, Neuralgic 309

Ear, Foreign Body in the 70
Epithelium of the Alveoli of the Lungs 311
Ergot—Rules for the Administration of 180
thics and Anæsthetics 246

Fever, Typhoid—On the Treatment of 349
Fistula in Ano, Case of Long Standing treated by the Elastic Ligature. 300
Fractures—
Cases of Fracture of Cranium 15
On the Treatment of Fractures 173

Gangrene of the Lungs, Tincture of Eucalyptus in 306
German Science—A French View of 303
lioma 313

Gynæcology—Recent Progress in 257
Post-Partum hemorrhage ... 261
Tincture of Iodine 263
Hot Water 263
Transfusion 265
Dysmenorrhœa — Pin - Hole Cervix 266
Vaginal Injections 267
Dyspaneuria 268
Abdominal Ovariotomy 269
Vaginal Ovariotomy 270
Normal Ovariotomy 271
Utero-Gastrotomy 272
Cervix Uteri 273
Intra-Uterine Medication 274
Flexions and Versions 276
Inversion of the Uterus 276
The Aspirator 276

Digitized by Google

Hæmatinuria 311
Hæmorrhoids and Prolapsus—Cases Illustrating the Treatment of, by the Clamp and Cautery 287
Homœopathy in State Universities 248

Intemperance 30

Lithotripsy—Dieulafoy's Aspirator in 240

Malaria 140
Malaria—Its Nature and Mode of Spread 321
Medical College Hospital 62
Medical Ethics 186
Miscarriages—On the Prevention and Management of 307

Nævi 51
Nosological Nomenclature—The Evils of 319
Notes from Germany 25
Notes from Edinburgh 193
Nymphomania and Vaginismus caused by Anal Fissure 41

On Doses 178
Our Last Graduating Class 190
Ovariotomy—Information Wanted 190
Ozœna 303

Pelvic Hematocele—A Clinical Lecture 3
Pepsine, The Value of 243
Philadelphia Correspondence 19
Placenta, Retained, Lineard's Procedure in 114
Pregnancy, Obstinate Vomiting in, Novel Treatment of 37
Prof. Cleland's Address 247
Puerperal Eclampsia, Case of 277
Pulmonary Cavities treated by Injections through the Chest Walls 113
Pulse—Variations in the Pulse of Different Arteries 281

Respiratory Percussion 96
Rheumatism—The Pain of 376

Salicylic Acid, a New Antiseptic 183
Salicylic Acid in the treatment of Catarrh of the Urinary Organs with Alkaline Fermentation of the Urine 238
Salicylic Acid—On the Use of 239

Digitized by Google

Sclerosis, with Eburnation or Exostoma of the Humerus—Death, from Hemorrhage, in the attempt to Amputate above the Shoulder-Joint. 109
Scrofulous Subjects, Amputations in 299
Scrotum, Injury to 28
Septicæmia after Ovariotomy 115
Society Matters—
British Medical Association 198
Tennessee State Medical Society 61
Spinal Symptoms—On an imperfectly recognized combination of 304
Stone, On Sounding for 175
Surgical Clinic of Prof. W. T. Briggs, Winter of 1874–75—
Osteo-Sarcoma of Lower Jaw 149
Fibro-Cellular Tumor in Parotid Region 152
Castration 334
Clitorodectomy 335
Tracheotomy 336
Surgical Practice—The Least Sacrifice of Parts as a Principle of..... 345
Syphilitic Ghosts 128
Syphilis, Sir James Paget on 49
Syphilis—Report of a Case of, treated by Hypodermic Injection of Corrosive Sublimate 211

Tetanus, Reports of Cases of 129, 137
Tetanus, Traumatic, Case of 279
Testicle, Inflamed—Is Strapping necessary in the Treatment of? 177
Therapeutics, Recent Progress in 231
Iodide of Potassium 231
Phosphorus 232
Local effect of Cold applied to the Scalp 233
The Antagonism of Medicines 233
Thrush 304
Transfusion—Reasons for and against Transfusion in Acute and Chronic Diseases 115
Tuberculosis, Nitrous Oxide in 114

Ulcers, Serpiginous and Phagedenic, Quinine in 310
Urethra, Stricture of the 201
Urine, Examination of 242
Urticaria 303
Uterus, Movements of the—Experimental Researches 117
Uterus, Structure of the Mucous Membrane of the 48

Varicocele, Cause of 72
Vivisection—What has it done for Medicine and Surgery 118

Digitized by Google

Wells, Horace, Monument to 122
Whooping-Cough, Remarks on, and its Treatment with Carbolic Acid Vapor 307
Women at the British Association 249
Wounds, Gun-Shot 65
Wound of Ankle-Joint—Tetanus 129

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Original Communications.

PELVIC HEMATOCELE.—A CLINICAL LECTURE.

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REPORTED BY FRANK HOLLOWELL, M.D.

GENTLEMEN—The subject which I propose to bring to your notice to-day is one of exceeding interest. Although the condition is not very frequently met, still it occurs sufficiently often to demand your serious attention. As introductory to the remarks which I shall make, I will read to you the history of two cases which have recently been under treatment—one of which some of you may recollect.

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CASE I.

E. M——, colored, single, aged about 27 years, has no children, but has miscarried three times, the last of which took place about nine months before her present illness. Her monthly periods have been irregular since that time, both in quantity and time of recurrence—sometimes every two weeks, then again going to full time; at times scanty, then again excessive, and always attended with pain. Previous to the last abortion, her general health was very good—she is a stout, well-formed woman. About two weeks before I saw her, the menstrual flow came on, and, as usual of late, was attended with some pain, and was excessive in quantity. After the discharge had lasted for two days, she took cold, from exposure incident to her calling, which was that of wash-woman, the weather being at the time very cold. As a consequence, the discharge was suddenly checked, and the pain in the back and lower part of the abdomen, to which she was accustomed at such times, was greatly increased in severity.

In order to bring about a return of the discharge, hot hip baths were taken, and some hot stimulating drinks, such as ginger-tea and the like, by the advice of friends.

On the following day, no relief having been afforded, she sought medical advice, and her case was diagnosed, by the physician in attendance, as only a cold, for which hot hop poultices were applied to the abdomen, and some laxative medicine administered. This afforded slight relief, but she was still confined to her bed. On the next day she observed a slight return of the discharge, but accompanied with excruciating pain.

At this time she was removed to the hospital, where I first saw her. She was suffering excruciating agony—lying upon her back, with her lower extremities flexed upon the abdomen, countenance anxious, abdomen very sensitive to the touch; and a small circumscribed swelling, occupying the right iliac region, was discovered upon palpation. The skin was cool, and covered with a clammy perspiration, and of a dirty ash

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color; pulse small and quick, numbering about 110. A vaginal examination developed the presence of a tumor, occupying, and almost filling up, the posterior portion of the pelvic cavity, bulging forward the posterior wall of the vagina, so blocking up this canal as to render it difficult to reach the mouth of the uterus, which was found pressed upwards and forwards behind the symphisis pubis. The tumor presented, to the touch, a slight fluctuating sensation. The examination, although conducted with exceeding care, gave rise to much suffering. Her bowels were costive, and urine high colored, and micturition attended with great pain. An opinion having been expressed by one of the gentlemen present at the examination, that the tumor which filled up the posterior portion of the cavity, obliterating, as it were, the cul-de-sac, was really the body of the womb retroverted, I introduced the uterine probe, and found the cavity of normal depth, and the direction of its axis upwards and forwards. The heat of the vagina was increased, and the canal moistened with a bloody discharge.

I directed the bowels to be opened by an enema, and the pain quieted with opiates.

The diagnosis arrived at in this case was pelvic hematocele, and the treatment was expectant in its character throughout the entire course of the disease. Opiates for the relief of pain, evacuation of the bladder with the catheter, and bags of hops wrung out of hot water kept continuously applied to the abdomen, and bowels relieved by enema. Upon the subsidence of the acute symptoms, quinine, with generous diet, were prescribed. Under this management she has gradually improved, and is now convalescent.

CASE II.

The second case is one which I take from my private notebook, as follows:

Mrs. DeC——, aged 30, married; has had three children, the youngest being about 8 years of age; of a nervous temperament, and rather delicate form; has enjoyed excellent health until within the past year; menstruation regular. Was taken

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suddenly with violent pain, accompanied with hemorrhagic discharge from the womb. As she was opposed to having any more children, I suspected that an attempt at abortion had been made.

I instituted a vaginal examination, and found the os pressed forward, slightly patulous, and its cavity filled with a small coagula; vaginal heat increased; the posterior wall of the vagina bulged a little; no tenderness or swelling upon palpating the abdomen.

Directed opiates, and quietude in the recumbent position.

On the following morning I found her better, but still not relieved—hemorrhage still continuing, but not in any quantity. Continue treatment, with the addition of cold acidulated drinks.

Under this treatment she continued to improve, the pain entirely subsiding, and the discharge becoming leucorrhœal. She appeared to be doing well, and, contrary to my advice, got up, but did not leave her room. In consequence of some marital trouble she became excited, and was again suddenly seized with violent pain in the lower part of the abdomen, particularly noticeable in the left iliac region.

I was summoned to see her about 10 o'clock at night, and found her lying upon her back, with her legs drawn up, and an anxious countenance; skin cool and pale; pulse quick and small; slight hemorrhagic discharge from the vagina. Made an examination, and discovered a tumor filling up, or rather occupying, the posterior vaginal cul-de-sac; womb pressed upwards and forwards; its mouth difficult to reach, but discoverable immediately behind the symphisis; tongue natural; bowels costive. Ordered opium, and cool acidulated drinks, with wine.

On the following morning found her condition not much changed; pulse not so small or frequent; skin not so cool; some nausea; micturition very painful; discharge from vagina continues, but not profuse. Introduced catheter, and ordered opium and quinine, and continued cool drinks, with wine.

The following morning I found reaction complete; discharge

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from vagina almost ceased; skin warm and dry; pulse quick and firm; excessive tenderness in the lower part of abdomen, particularly upon the left side; tongue coated and dry, and red at tip and edges; bowels costive. On vaginal examination I detected the tumor as previously described, which presented to the touch a boggy feel. Directed a saline laxative, and if bowels are not moved, its action to be promoted by enema. Continue opium and quinine, with the addition of digitalis; light diet. Urine drawn with catheter.

At my next visit, patient's condition was not much altered; hemorrhage from vagina had entirely ceased. Continue treatment, with the addition of a large blister to the abdomen, which now presented evident marks of fullness, pointing to peritoneal complication.

On the following day I found her a little more comfortable, but with no marked improvement; bowels had been moved twice; nausea, of which she complained on yesterday, somewhat relieved, and pain not so great; still very great abdominal tenderness. Continue treatment, increasing, however, the intervals between the doses.

The day following, finding my patient much worse, Dr. Briggs was called to see her with me. She had had, during the night, a severe rigor. This morning the skin was warm, but covered with a clammy moisture; tongue dry; delirious; pulse quick and small; abdominal tenderness increased, but the swelling distinctly circumscribed, and occupying the left iliac region. Upon making an examination per vaginam, we found the womb pushed well up behind the symphisis pubis, the tumor presenting to the touch a decided sense of fluctuation. Micturition was excessively painful; bowels opened once since last visit.

Upon consultation we determined to explore the tumor. We introduced the needle of the aspirator, and drew off about a pint of a grumous fluid, looking as if it were disorganized blood, and very offensive in its character. Having emptied the cavity, we washed it out by throwing gently, through the canula, a weak solution of carbolic acid, and immediately

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withdrawing it. Continue prescription, with the addition of wine and soup as diet.

The next morning, we found, upon examination, that the tumor had re-appeared, and the fluctuation positive. Emptied it again, as before, with the aspirator, and washed it out with the carbolic acid solution. The quantity of fluid was not so great, but still grumous and very offensive.

On the following day patient improved; tongue moist; intellect clear; skin warm; pulse 100; abdominal swelling diminished. Drew off the accumulation, which was much less in quantity, and the character of the fluid much altered—only slightly tinged, and almost odorless.

The day after we found our patient in every respect much better. The abdominal swelling was scarcely perceptible, and she was able to lie in any position without causing much pain, but still, more comfortable when upon her back. Withdrew the opium, except at night; continue quinine; full diet.

From this date she continued to improve, and is now in the enjoyment of good health.

You have now before you a general report of two cases of disease, which differ much, both in their course and the treatment, but presenting many general features similar in character. In both you have a tumor, occluding, to a great extent, the vaginal canal; in both you have tenderness and swelling in the lower part of the abdomen; in both you have the womb pushed out of position upwards and forwards; but the manner of occurrence and the severity of symptoms, together with the course pursued by the swelling, differ. In the one very sudden, in the other much more gradual; in the one the symptoms characterized by extreme severity, in the other, although severe, much milder; in the one terminating by resolution and absorption, in the other suppuration. Both of these are evident cases of what has been termed "pelvic hematocele," by which title we recognize an accumulation or collection of blood in the pelvic cavity. This accumulation may take place either above or below, or, in other words, in or out of and below the peritoneal cavity.

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We have spoken of this effusion as though it were, of itself, a disease—it is not, however, any more than the effusion of water into some of the serous cavities is a disease; it is a mere symptom of some antecedent pathological condition, but which, unfortunately, in the present status of our knowledge, we are unable to recognize; hence, we are forced to treat this symptom with the same consideration that we would the "real thing itself," with the hope that advancing science will soon clear away the rubbish, and let us look upon the real truth.

I have said that this was an effusion of blood into the pelvic cavity. The first question of importance—one, if we could answer, would solve the difficulty of which I have just spoken, to a great degree—is, From whence comes this blood in each particular case? It might serve both to modify our prognosis as well as treatment. In general, the sources of the effusion are chiefly three: 1st. It may come from the ovary itself. 2nd. From the fallopian tubes—being exhaled, as it were, from their mucous lining, or it may regurgitate through these tubes, and thus come indirectly from the womb. 3rd. By rupture of some of the pelvic veins. And again it may be due to an exhalation consequent upon a depraved condition of the blood itself. Of course there are other causes of blood-effusion, such as rupture of the uterus, or rupture of the cyst of an extra uterine foetation; but these we do not include under the title of pelvic hematocele.

It is true that in no case is the effused blood the disease, but it is the effect of some previous lesion; but in all cases this hemorrhage is an important element. These effusions, as I have said, may be either external to or within the cavity of the peritoneum. Those within have been divided into encysted and non-encysted.

When a large quantity of blood is effused, death takes place very soon—at farthest, in a few hours—from loss of blood direct; thus bringing about a condition which closely resembles the effect produced by rupture of the cyst of extra-utirine foetation, tending to confuse your diagnosis. In the former variety—that is, the encysted—the effusion is neither so great in

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quantity, nor is the amount poured out so suddenly. It resembles more an oozing from one of the sources pointed out as the origin of the flow, and gradually gravitates into Douglas's cul-de-sac; inflammation, by its presence, is excited, lymph is poured out, and the two layers of peritoneum become agglutinated, and thus this foreign mass becomes encysted.

In the other variety, or sub-peritoneal, the blood is effused into the cellular tissue, of the pelvic structures generally; the location of the bloody tumor will depend somewhat upon the locality of the bleeding vessel—it may be in front or to the side, or posterior, which latter is by far the most frequent.

You might imagine that it was an easy matter to distinguish between these two varieties, and hence will be astonished when I say to you that neither the symptoms nor physical signs present differences sufficiently distinctive to enable you to say whether the effusion is external to or within the peritoneal cavity. I know that there are some who profess to be able to distinguish, during life, between them, and speak of the "extra" variety as being the less serious, and the attendant symptoms not so grave. In some cases the tumor may descend low down towards the vulva, but this is the only circumstance which I can imagine that might lead to a suspicion as to the locality of the foreign mass; especially would I be disposed to utter an opinion upon this point if the attendant symptoms were of a mild type.

Having now called your attention to the different varieties, as also the sources from whence the blood comes, let us next look at the causes. Anything which tends to disturb the circulation in the genital apparatus—bringing about congestion of these organs—will predispose to its occurrence; hence you will find, upon looking over the history of reported cases, that hematocele has occurred with the greatest frequency about the age of 30, which is the period of greatest sexual activity. At each monthly period you are aware that these organs are more or less congested; hence menstruation may be set down as one of the predisposing causes. Tight lacing, the tendency of which is to retard venous circulation, and thus bring about a

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varicose condition of the various plexus of veins which are found about the genitalia, is another predisposing cause. Any alteration of the blood itself may also predispose to it. The exciting causes are many—blows or falls, sudden suppression of the catamenial flow, as occurred in the first of the cases reported; excessive or rude coitus; intercourse during a menstrual period; excessive exercise; mental emotion, and imprudence of any kind after abortion, as occurred in the case of Mrs. D——.

I will not detain you by pointing out, in detail, the various symptoms which are met with in this affection—you can glean them from the history of the two cases reported. The main features are, the suddenness of their occurrence, the prostration in proportion to the shock, and amount of blood poured out; the pain and tenderness in the lower part of the abdomen; the formation of a tumor suddenly in one of the iliac regions, or making its appearance in the posterior wall of the vagina, or in some part of the cellular tissue, which is abundantly met with in these parts, and discoverable upon vaginal examination. At first the tumor is soft and fluctuating, and afterwards becomes more firm. The difficulty and excruciating pain attendant upon micturition is one of the most common symptoms; and finally, the alteration in the position of the womb, generally found pushed upwards and forwards. You will nearly always find some difficulty in reaching the mouth of the womb, but if you will pass your finger well up behind the symphisis, you will nearly always meet with it in that locality. The presence of a tumor is the characteristic feature of the disease—for you will see that, so far as the symptoms are concerned, they point you to nothing which is specially characteristic.

Finding yourself in the presence of a tumor, occupying this region, and associated with the symptoms to which I have alluded, your first endeavor should be to find out whether this tumor was coincident with the attack. This, you will soon learn, is an important diagnostic element; for I know of no tumor of sudden development in this region, and associated

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with such symptoms as I have pointed out, other than those which have been classed under the title of "hematocele." It will behoove you, however, to examine with care the characteristics of this tumor; for we can oftentimes reach our conclusions as certainly by pointing out what cannot be—that is, by exclusion, as by the direct method. The size of the tumor will be determined, of course, by the amount of blood effused, and hence varies. The changes to which this blood-tumor is subjected are peculiar—at first, fluid giving to the touch a sensation of fluctuation; a little later, a doughy or boggy feel; still later, increased firmness, especially in spots, due to the separation of the solid and watery portions of the blood. You should examine this tumor both internally and externally, and by conjoint manipulation—by the rectum as well as by the vagina.

If you pay proper attention to the points to which I have called your attention, you will, as a rule, be able to arrive at satisfactory conclusions. There are, however, some few diseases for which this may be mistaken; and the first which I shall notice is retroversion of the womb. Of course this organ may, by a fall, or something of that sort, be suddenly displaced, and the body of the organ give rise to a tumor in a situation where none existed before. You would have a tumor, it is true, filling up the posterior cul-de-sac, but it seems to me that very little skill would enable you to make the distinction between the body of the womb thrown backwards and an hematocele. First, the greater severity of the symptoms in hematocele; second, the body of the womb is more movable, and harder; and lastly, an appeal, as I did in Case I., to the uterine sound; in hematocele, the direction of the axis of the organ upwards and forwards, as well as a reciprocal independence of the uterus and tumor, as thus proved; while in retroversion the axis is downwards and backwards, and the oneness of the tumor and the womb is also established.

A mistake which is much more likely to occur is the confounding of pelvic cellulitis with hematocele. Both of these conditions give rise to swellings which might be mistaken the

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one for the other; men of great experience and observation have made such mistakes. This is just the case where the history and course of the disease will aid you materially in forming an opinion: First, in hematocele, the tumor precedes the fever and inflammation, whilst in cellulitis the tumor is the result of the inflammatory effusion, and consequently, as a rule, slow in its formation. Nor is the pain and fever equally severe in both; nor is it preceded, in cellulitis, by that prostration which is characteristic of hemorrhage. The physical characteristics of the tumor also differ—in the one, firm at first, and afterwards soft; in the other, fluid at first, and afterwards becoming more firm, by reason of the coagulation of the blood. The position of the tumor, also, is different in cellulitis—upon either side, chiefly, whilst in hematocele it is found most frequently in the posterior cul-de-sac.

These are the two chief sources of difficulty; there are some others, which I have not time to notice, such as fibrous tumor, ovarian cyst, and extra-uterine foetation. I will now pass on to the

TREATMENT.

By reference to the two cases which I have reported, you will find that the management differed widely—in the one the expectant, in the other the operative. These cases will give to you my idea in regard to the management of this disease. It is true that experience has taught that, as a general rule, the expectant plan of treatment is the one to be pursued; but in this, as well as in all other diseases, whilst we are able to lay down general laws in regard to the management of disease, each special case will demand at your hands special investigation and a special treatment. The point of dispute in these cases is whether the tumor should be opened or not; in other words, puncture or no puncture. As a rule this should not be done; so long as the constitutional symptoms are not severe, and the tumor is not excessive in point of size, it may be left safely to the unaided efforts of nature, complete rest in bed, relief of pain with opiates, and any accidental complications

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met as circumstances may dictate. To tabulate the indications —check further loss; prevent death from shock and prostration, and relieve pain. Trust to nature to accomplish the removal of the effusion, aiding her in every way that we can.

There are, however, cases, in which the operation is not only justifiable, but the safety of our patient will absolutely demand it. I believe if the sac, in the case of Mrs. D——, had not been evacuated, death would have inevitably ensued. There are circumstances which absolutely demand that this course be pursued, in order to avoid dangers much more serious in their character—such as rupture of the cyst into the cavity of the peritoneum, and pyæmia. Now, whenever you find the effusion so great as to become an absolute impediment to micturition and defecation; or, again, when the swelling increases in size, becomes tense and fluctuating, accompanied with repeated chilly sensations, and profuse perspiration, combined with other symptoms indicative of constitutional disturbance, to sit idly by, trusting to nature to accomplish that which we refuse to do, bearing in mind that whilst nature may rupture the cyst, she may do it in a direction not at all desirable, we would be highly culpable not to interfere surgically. Should the case demand surgical interference, the next question is, at what point should we make the opening? In the case of Mrs. D—, we evacuated the cyst per vaginam, the prominence being greatest in this locality; this circumstance would determine me as to the selection of the locality. Nature seems to prefer the rectum; other things being equal, I do not think you can do better than imitate her. And further, after you have evacuated the cyst, wash the sac out with some antiseptic fluid—this course to be repeated every day, as long as there is any accumulation, and the discharge continues fetid.

Of course, in addition to the local treatment, general remedies, appropriate to the special condition of the case, should be adopted.

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CASES OF FRACTURE OF CRANIUM.

BY THOS. LIPSCOMB, M.D., SHELBYVILLE, TENNESSEE.

AUGUST, 1834.—Called to see A. J. M——, who, when somewhat intoxicated, provoked a quarrel with T. G——, who gave him a blow over the left side of the head, producing an ugly wound in the scalp and extensive fracture of the left parietal bone, with very considerable depression, and partial coma resulted.

Concluded to keep him cool and quiet, and wait long enough for the effects of the whisky to subside.

The symptoms not improving the next day, I, assisted by Dr. F——, proceeded to operate, when I found the fracture so extensive and the depression so great as to render perforation necessary, and the use of Heys' saw also.

Nothing unusual followed the operation, and the recovery was perfect.

CASE II.

February, 1835.—Called to see J. F. S——, a youth, about 15 or 16 years old, who had received a kick, from a fresh-shod horse, on one of the parietal bones, producing a very small wound in the scalp, but with extensive stellated fracture and depression.

After enlarging the wound, so as to afford an opportunity for examining the fracture, and finding the bone so much broken up, and depressed in the centre of the fracture, I concluded, in the absence of decided coma, to use the trephine and elevator, which I at once, assisted by Dr. B——, proceeded to do; which being done, the patient, with rest and proper treatment, made a perfect recovery.

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CASE III.

In the summer of 1840, a little son of Mr. T—— was thrown from a horse, the top of his head coming forcibly in contact with the end of a rail, producing an extensive fracture and external wound. Dr. B. was called to the case, and although the fracture and depression were manifest, yet as neither positive coma nor stertorous respiration were present, following the current teaching on the subject, Dr. B—— concluded to keep the head elevated, use antimonials and low diet, enjoin perfect rest, and endeavor to relieve the symptoms without an operation. By this treatment the vital forces were weakened, but irritation of the brain was only controlled for a time; for, about the seventh or eighth day, the little fellow had a convulsion followed by some coma.

On the next day I was called on to assist Dr. B—— in operating. Upon exposing the bone, we found an extensive fracture on the upper portion of the head, near the line of the great longitudinal sinus. With the use of the trephine and elevator, the fractured and depressed bone was removed and raised, but during the operation there was considerable hemorrhage from within the cranium, which could not be immediately controlled, and as the previous treatment had very considerably enfeebled the boy, his powers let down, and death ensued during the night following the operation.

CASE IV.

November 25, 1842.—W. D. W——, aged 35, was stricken over the head with a wagon hammer, producing an external wound and fracture of cranium, with considerable depression, and coma for several hours, which, under rest, and emptying bowels per enema, subsided to some extent, so that there was some consciousness, but with entire inability to speak.

After waiting for two days, and symptoms not improving, in consultation with Dr. B—— we concluded to operate, and elevate the depressed bone. In the accomplishment of this there was pretty free hemorrhage, but not sufficient to endan-

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ger sudden sinking; but no improvement followed the use of the trephine, as coma and other symptoms followed, and death was the result on the fourth day after the receipt of the injury.

CASE V.

May 3, 1857.—I was called in the country to see a colored boy, aged 6 years, who, on the day previous, had received a severe blow on the os occipitis from a large rock thrown by a man at some sheep that had got in his yard; the rock struck the beveled or sloping end of a trough, which caused a divergence from its course, but it struck the boy with sufficient force to knock him down and produce unconsciousness of short duration.

When called to see him he was rational, complaining but little of the head. There was a very small external wound, but at the seat of injury was a puffy-feeling tumor and obscure indications of fractured cranium. Believing it the safer course to ascertain the extent of injury in such cases, I removed the hair, and made a crucial incision through the scalp, which I turned aside, so as fully to expose the nature and extent of the injury. The bone was found extensively broken, badly comminuted, and some of the broken-up hair issuing from the bony fissures. The trephine and elevator were used, and a slit, or laceration, an inch and a half long, made in the dura mater, from which cerebral matter issued. After cleaning the wound, the angles of the scalp were drawn together, and a towel folded, wet with cold water, and applied over the wound, with directions for the same to be continued, and the patient to be kept on strictly unstimulating diet, with proper attention to his bowels, and strict quietude enjoined.

Five days after this I visited the patient again, and found the wound healing kindly, with no threatening constitutional symptoms. Directed continuance of treatment.

Saw him no more, but learned from his owner that he never had an unfavorable symptom. Recovery was speedy and perfect.

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CASE VI.

November 26, 1860.—Was called on, in conjunction with Dr. W. M. Gentry, to visit a colored man, the property of Dr. P. Frazer. Upon going to see said man we found that, some three days previous, another negro had thrown a rock and struck this one on the lateral portion of the os frontis, knocking the man down, and producing a small wound. He soon recovered from the concussion. His master made a superficial examination, spread a strip of common adhesive plaster over the wound, and thought all would soon be well. Previous to our seeing this man, some tetanic symptoms had occurred, which were continuing.

Upon examining the wound carefully, we found a piece of the rock with which he had been stricken, as large as the end of a finger, imbedded in the wound, and the bone broken and depressed. Regarding this local injury as the cause of tetanic spasm, we proceeded at once to remove the piece of stone from the wound, and then to apply the trephine and perforate the cranium, and, with the elevator, raise the depressed bone. This was done without difficulty, but, as we feared would be the case, was unproductive of benefit, as the tetanic symptoms increased in severity, and the ensuing night, or following day, terminated in death.

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PHILADELPHIA CORRESPONDENCE.

PHILADELPHIA, PA., June 9, 1875.

PHILADELPHIA is preëminently the city of many doctors, as every one who visits it will readily attest; for he sees, upon nearly every other house, the prominent sign of an M. D., mutely inviting the troubled wayfarer to enter and be "made whole." The exact number of physicians, regular and irregular, practicing in this city, I have not ascertained, but imagine it must be large indeed to account for the great weekly mortality, amounting, at times, to three hundred and fifty and four hundred.

As large armies have always following in their train large numbers of the parasitic genus, such as sutlers, pediculi, and the like, so this army of physicians is infested with the species of the "foul" familiarly known as "quacks," in which category may be comprised the infinitesimal homœopath, the lightning-taming electropath, the laundryman of disease, the hydropath, and, indeed, every other *path* that leads to sure death and destruction.

Mediæval times are fairly represented by followers of the venerable originators of the barber-pole—the "cuppers, bleeders, and leechers," who, *in hoc signo*, ply their ancient vocation.

The advance of civilization is exemplified by a sprinkling of strong-minded women, who have figuratively wedded Æsculapius, and who, as Doctresses or Mrs. Doctors, bid us hope for the speedy arrival of the "golden age" when

> "We'll have a female President,
> And a female daddy, too."

Truly, then, has the "City of Brotherly Love" been dubbed the Qua(c)ker City.

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Besides the justly-renowned Jefferson College, the no less celebrated University of Pennsylvania, and the Woman's Medical College of Pennsylvania, I understand there is a fungous institution in existence here, which, for the moderate sum of five dollars, awards a diploma, without the troublesome necessity of two terms, or the still more troublesome test of examination.

The University of Pennsylvania, only recently completed, is the most magnificent educational structure in the United States. The only disadvantage under which it could possibly labor is its distance from the city. Jefferson is situated in the very heart of the city, and though at present of rather a modest appearance, in point of architecture, will soon be rebuilt, with all the modern improvements, on the strength of recent large endowments.

Of the comparative merits of the two I am not able to judge, but the greater number of Jeffersonian graduates annually, declares the superior attraction of such master-minds as Gross and Pancoast. As a member of Prof. Gross's clinical staff, I have not missed a surgical clinic of the summer session, and have been struck with the clock-like smoothness with which the lecture is conducted. As the clinic is open to all, the number of patients that present themselves is always large, and the appearance of many of them indicate their ability to pay, if they would. I could not possibly have a better opportunity of seeing and studying disease, than my present position affords, for I examine all the patients before lecture, and can make out comparative diagnoses.

Among the interesting cases of late may be mentioned a very old lady, who was the unfortunate possessor of fourteen large sebaceous tumors of the scalp, each fully as large as a goose-egg—one of which, being in a suppurating condition, was removed.

Another case, suffering from necrosis of one of the bones of the forearm, resulting from an old gun-shot wound, afforded a remarkable instance of the number of wounds a ball may make in its course. The ball entered the posterior aspect of

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the forearm while in a semi-flexed position, passed out in the anterior aspect, entered the middle part of the forearm, passed out behind, and then penetrated the fold of the axilla, making in all six wounds.

Other cases were, a large nævus of the back, removed with the ecraseur, the tumor measuring fully two and a half inches in diameter; several cases of partial anchylosis, treated by passive motion; numerous cases of hare-lip; ununited fracture of radius and clavicle; impacted fracture of the head of the humerus; dislocation of the head of the radius; several cases of irritability of the bladder, from constricted orifice and elongated prepuce; numerous cases of polypus nasi, dermoid cysts, scirrhus mammæ, chancre, hypospadias, stricture, gonorrhœa, etc. etc.

In the absence of his father, at the meeting of the Association, Dr. S. W. Gross had charge of the clinic, and will now hold it the remainder of the term. As an operator and a lecturer he fully equals his celebrated father, and bids fair to rival him, one day, in reputation. The most interesting lecture I ever heard was one which father and son shared in common, alternating with each other in operations. Dr. S. W. Gross adopts a very simple and efficient plan in the treatment of tongue-tie in children, using no instrument but his thumb, with which he breaks up the adhesion, and thus avoids all danger of hemorrhage. In varicocele he suspends the scrotum against the abdominal walls, by a trapezoidal-shaped piece of buckskin tightly laced about the affected side, and held in position by a roller bandage about the waist.

One of the best instruments I have seen since my residence here is one invented and used by Dr. Gross. Simplicity is the leading feature of the instrument—a great recommendation certainly. The instrument I have reference to is an urethrotome, and, compared with the elaborate instruments in general use, is immeasurably superior. It is modeled on the plan of the French *bougie-à-boule,* an instrument invaluable in accurate diagnosis of even the smallest strictures, from the fact of the resistance offered by the stricture on being withdrawn from

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the urethra. He conceived the idea that if only a blade was fixed immediately behind the shoulder which always hitched up against the constriction on being withdrawn, a stricture could be easily and safely divided. The instrument, as now manufactured by Gemrig, is a straight tube, about ten inches in length, terminating in the acorn-shaped expansion of the *bougie-à-boule*, and having a concealed blade just behind the shoulder, which, on pushing a spring, juts out a little more than the circumference of the bulb, and invariably cuts in the right place and at the right time. Indeed, a *faux pas*, in an operation with this instrument, could hardly be made. I have seen the Doctor operate with it a number of times, and always with the most gratifying success. Such is the newly-invented urethrotome of Dr. Sam'l W. Gross—an instrument which will do much towards advancing the treatment of urethral stricture.

An expedient adopted by a syphilitic patient, with chancre of the prepuce, to prevent inoculation of the glans penis and surrounding parts, is worthy of passing notice. He simply and completely covered all the parts near the chancre, with close-fitting tissue paper, thus effectually protecting the unaffected tissue.

Speaking of chancre reminds me that both the Grosses deny any distinction between soft and hard chancre, asserting, on the contrary, that they are both undoubted manifestations of constitutional taint. Of course such an assertion from surgeons of such vast experience, carries much weight with it, and has weakened my notions of the dualistic theory of syphilis not a little.

An eminent artist of this city is making a large oil-paint portrait of Dr. S. D. Gross and his assistants, in the act of performing an operation before the class. The great surgeon is represented with scalpel in hand, in the act of addressing the class, preparatory to making a resection of the femur, with his assistants in various positions performing their several duties about him. It is to be exhibited in the Centennial.

Of other lecturers that I have heard, that of Prof. DaCosta

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is by far the most instructive, having a weekly clinic as large as the surgical. Dr. Andrews, Demonstrator of Anatomy, is a very fine teacher, as are also Dr. Keen on Pathological Anatomy, and Dr. Brinton on Operative Surgery. At the hospital clinics I have not been able to hear many lectures on account of my duties at the clinic of Dr. Gross. I have, however, heard Drs. Warder, Tyson, and Bertolet, and was invariably pleased.

At the Philadelphia Hospital I was shown an extraordinary monstrosity by Dr. Montgomery, resident physician in the obstetrical ward of that institution, an account of which he has since reported in full in the *Medical Times*. The case in question consisted of twins, born dead at full term, both males, weighing together ten pounds and four ounces, and, like the famous Siamese twins, joined by a band—in this instance three inches in length. The band, or pouch, connected the umbilici together, and was a reflection of peritoneum, partially covered by integument, and enclosing a portion of the intestines. There was a single placenta, which was somewhat larger than usual. Two veins and two arteries, given off from the middle of the placenta, formed the cord, which bifurcated at a short distance from the pouch, sending an artery and a vein to each child. A careful dissection, made by Dr. Montgomery, discovered that the single hypogastric artery of each child came off from the aorta, and the vein, after entering the abdominal cavity, pursued its normal course to the liver, and in all other respects the circulation was normal. There was an imperforate anus in each child, the large intestine terminating in a pouch, which opened into a sulcus running from one child to the other. The small intestines of each child joined in the common pouch of peritoneum, to form a triangular receptaculum connected with the cæcum. The genital organs were well developed, but the urinary apparatus was imperfect—there being no bladder, and the uretus running into the pouch.

The second case of monstrosity was a very remarkable one indeed, and I regret exceedingly that closer investigations were not made. The mother (white), when near confinement, de-

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clared she had been Desdemona to an odorific Othello, and expected, as a natural sequence of events, that the forthcoming child would be a mulatto; but to her own amazement, and that of the attending physician, she was delivered of a double parti-colored offspring—well-developed twins—one white, the other of the mongrel mulatto hue. The claims of the latter individual to the supremacy of African descent were not established by microscopic examination. Had it been, interesting physiological inferences, bearing upon embryology, might have been drawn. The statement of the mother, that she had been impregnated by a negro, strengthens the belief of some that one of the children had a white progenitor, the other a negro.

I saw Dr. Warder, lecturer at the Philadelphia Hospital, perform an operation for cystocele which differs from all the established operations for that condition. It consists mainly in dissecting off from the redundant mucous membrane of the anterior wall of the vagina, a large diamond-shaped portion of the wall, including the entire length of the vagina, and closing the wound with silver wire in the usual manner. The after-treatment is simple—packing the vagina with cotton steeped in a solution of alum and carbolic acid, drawing off the water frequently with the catheter, and supporting the parts with compress and bandage. In the operation referred to the result was splendid.

In closing, I may say that although I have heard many fine lecturers, I have heard none who equal our own Faculty in the great art of teaching; nor have I yet seen any operation performed which I had not before seen as skillfully performed by our surgeons. Only in clinical advantages do I regard Philadelphia Colleges superior to my own Alma Mater; and this superiority will be greatly lessened soon, by the erection of a magnificent hospital on our college grounds.

C. S. B.

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NOTES FROM GERMANY.

BY THOS. O. SUMMERS, M.D.

THE fourth Surgical Congress assembled in the Hall of the Royal University, at Berlin, during the week beginning April 5th. It was largely attended by representatives from various parts of the empire. Distinguished visitors were also present from other countries. Prof. von Langenbeck presided.

Esmarch, of Kiel, exhibited some of his own apparatus.

Bardeleber delivered a very interesting lecture on The Practical Results of the Antiseptic Method; Jaesche a speculative treatise on Pus Infiltration after lithotomy; Langenbeck some pointed practical remarks on the total extirpation of the tongue, etc. etc.

This was the most formal and lifeless assembly of scientific men I have ever seen. They move like machinery, but to me it was more of a *pantomime* than anything else. Oh, how they needed a little of the American enthusiasm to infuse life, energy, power, into their deliverances. Langenbeck is far ahead of them all, both in point of culture and practical ability.

Virchow, the eminent pathological anatomist, is a man of great intellectual power, but of late he dabbles too much in politics. A strange combination this—a member of the *Reichstag* doffing his Senatorial robes for the dissecting apron. I can readily see the effect of this versatility of occupation upon Virchow as a scientist. He is restless, impatient, and never has time for anything. His lectures are made up of platitudes, and are by no means equal in interest and power to his published work on *Cellular Pathology*, which has given him the world-wide reputation which he now enjoys. I attended one

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of his demonstrations a few days ago, and could not but admire the facility with which he operated, and the vast and accurate information which he displayed, but I am compelled to say Virchow is no *teacher*. Indeed, Langenbeck and Reichert are the only two Professors here who may be justly so classified. The latter, Reichert, Professor of Anatomy, is an old man, but is as lusty and vigorous as a boy. Boiling over with fun, he clothes the dry bones, with which he has to deal, with an interest which they do not usually inspire. The opportunities for thorough anatomical study, however, are very limited at these large Universities. Indeed, the practical part of anatomy is sadly neglected. The nebulous dreamland of speculation is far more cultivated by German thought than the hard realities of actual investigation and practical demonstration. Said Prof. Gross to me, as we traveled together from Philadelphia to New York, "the American mind is the strongest in all the world." I am convinced that he was right. Philologists and philosophers may sneer at utility, and cast the shadow of infamy over the handiwork of the investigator, but the grand common sense of mankind knows well whose brow deserves the laurel, and whose hand guides the machinery of thought.

In a personal interview with Langenbeck, at his house, he spoke of American surgery, and inquired minutely concerning the details of its progress. "We feel ourselves," I said to him, "yet children in science, as we are indeed in years."

"You are not children," he replied; "side by side with the developments of time in the history of the old world, the records of American science stand out in bold relief. We recognize you as indeed our equals in surgery, and from the progress you have already made, we await with interest the further developments of your country."

The Professor is conducting a course on Military Surgery, preparatory to the war which, it is generally admitted, must come, and that soon, between Germany and France.

DuBois Reymond, the physiologist, is the most tiresome lecturer I have ever heard. He never looks at his audience

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when he can help it, and lies down upon the desk in the most uncouth and lazy manner, drawling out his ideas like drawing teeth. He is now on Chemical Types and Substitution, and adheres to the old chemical nomenclature—perhaps because the English have adopted, very generally, the new.

I am much better pleased with the scientific aspect of Berlin than with that of Vienna. Prof. Hyrtl himself, I may say, is not satisfied with the outlook there, and has so expressed himself before the students. The fact is, Vienna runs on its reputation, of which it has just enough to insure its *fossilization* as a scientific centre.

In so far as theoretical science is concerned, the Universities of Leipzig and Jena far surpasses these larger centres of learning, where the facilities for practical work are of course more extensive, but less available to the student. I have, however, been particularly pleased with the method adopted in teaching minute anatomy. There are long tables in front of the Professor, connected with each other so as to form two right angles, being thus continuous throughout the room. At these tables the students sit, and the microscopes, as mounted with the tissues under discussion by the Professor, are made to run on rollers along the tables in such a manner as that they cannot be thrown out of focus by the student, who has only to look, and roll it on to the next. It is very interesting indeed to see this train of microscopes freighted with demonstrations, moving along through the mammoth lecture-room.

In regard to hospital arrangements, Berlin cannot be excelled. So much attention is paid to cleanliness and ventilation; and, what is especially noteworthy, the parks and beautiful surroundings furnish to the convalescent a pleasing and health-giving resort, and to the bed-ridden a picture of nature that never fails to tell favorably upon the mental condition of the patients. It has always been a wonder to me how a man could ever recover from the slightest ailment in many of our American prisons for the sick.

The department of Neurology is well brought up here, and

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I look for developments in this line that will soon settle many points in this *terra incognita.*

I was invited, a few days since, to witness the ceremony of conferring the degree of Doctor of Medicine at the University of Prague. It was an interesting and imposing occasion, rendered doubly solemn by the introduction of the ecclesiastical element. The ceremony was conducted in Latin, of course, and the valedictory was also delivered in that language. There were only two candidates, and they bore their honors by no means meekly. They were afterwards kissed by their friends, male and female, and drove off to a feast prepared for the occasion. With all their theory and ceremony, I could not but think that, side by side with our American country doctor, they were but dwarfs. May God save us from a *text-book-murdered medical profession!*

INJURY TO SCROTUM.

BY H. B. HAYNIE, M.D., DIXON'S SPRINGS, TENNESSEE.

CALLED in haste to see Mr. W. H——, a stout farmer, aged 45 years, married, having five children. While engaged in plowing a yoke of oxen upon a hill-side, and while unhooking the chain from the plow, the oxen became frightened, springing forward, the hook of the chain catching him in the scrotum, at its junction with the perineum, dragging him a distance of two hundred yards down the hill, terribly lacerating and contusing it, in such a manner that both testes were left without a covering, yet without any serious injury to them or the spermatic cord.

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After cleansing the parts, I adjusted them with stitches and adhesive strips, as well as I could, and prescribed an opiate, enjoining perfect rest in a recumbent position.

Called again the second day, and found him suffering but little pain, with scarcely any fever, but a great deal of fetor of the parts. Upon examination, I found at least one-third, or more, of the scrotal sac, gangrenous, with a well-marked line of demarcation. I immediately applied the knife, being guided by nature's index, removing all of the gangrenous parts; but on attempting to readjust the parts, I could not bring them accurately in apposition, in consequence of the swollen condition of the testes, and a deficiency of the scrotal sac; however, I adjusted them as near as I could, and secured them with stitches and adhesive strips, applying cold lotions to the parts, with an occasional opiate to procure rest.

Visited him again on the third day, and found the parts much swollen, and very tender, some of the stitches having broken, and a portion of the wound gaping half an inch. Continued cold applications, and healthy granulations sprang up. The parts healed kindly, but the scrotum was so tightly stretched over the testes as to give the whole an indurated appearance, which it retains to this day.

But the most remarkable feature in the case was, that his wife conceived in about three months after the accident, and in due time bore twins; and at the expiration of two years she again bore twins, dying six months afterwards with apoplexy. She never bore twins previous to her husband's accident.

Query—Was the bearing of twins in succession accidental, or can it be accounted for on physiological principles?

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INTEMPERANCE.

BY S. P. CRAWFORD, A.M. M.D., STOCKTON, CALIFORNIA.

THE above caption may look strange in a medical journal, and many may think it entirely out of place here. If intemperance, in the common acceptation of the term, was only a moral evil, and not a *physical disease*, then it would be out of place here. But it being pregnant with physical evil, brings it legitimately within the domain of Medicine.

Intemperance, Alcoholism, Dipsomania, or by whatever name it may be called, is a disease of the body, usually of long duration, exceedingly fatal, and, when once fully developed in the system, cannot be removed by any moral forces at the disposal of man, and is therefore a subject for the application of physical agencies.

It is not my intention here to speak of the symptoms, pathology, or treatment of the disease, but to call attention to some of its predisposing and exciting causes; causes which, in all the efforts to cure the malady and prevent its extension, have generally been overlooked, or not suspected.

The consideration of the etiological character of the disease is of the first importance to give us a correct insight into the best method of the prevention and cure of this scourge of the human race. We will then, in this paper, endeavor to trace out some of its causes.

The reader will please go with me on a prospecting tour, in search, to use a miner's phrase, of "surface indications." We will stop but a moment at the grog-shops; for here we find the disease fully developed, rioting in all its virulency, and we find few indications of the remote or primary cause. We will pass from here to the social circle—to parties, ball-rooms, concerts, &c. Here we find the surface indications much better,

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and the remote causes begin to crop out, but not sufficient to justify us in spending all our time here in investigating the etiology of the malady, for there are other, remote, yet more direct causes, than we find here.

We will step from here down into the brothel, and the moral stench of dens of iniquity, and see if we can find anything that will lead us or aid us in our search. Alas! we have lost almost all traces of a direct or remote cause. We find none here but those who have congregated here with the disease developed in its most deadly form. There is no trace of any cause to be found here; the period of incipiency has long been passed, and all seem to be in the third and last stage of the disease.

Let us hasten to climb from this abyss of rottenness, moral and physical despair, to higher and purer regions; for we are certain none could have started from here, and none could have plunged here from respectable society by a single leap. There must be a starting point more remote than this, in which there are many intermediate steps between this and that. This seems to be but the "pest-house," in which the patient is placed, after the disease had been contracted and developed in the better walks of life.

Having got into higher and purer regions, remote from the scene last surveyed, let us rest awhile in this neat cottage by the wayside. Here we find toil and labor, neatness and plenty, combined. Certainly, from all external appearances, we are far from the object of our search; but in our travels we will leave no stone unturned.

What is this I see? Here is a bottle labeled "*Expectorant,*" and here is another called "*Soothing Syrup,*" and yet another labeled "*Bitters.*" Let us see what they are. The Expectorant is whisky and molasses, flavored with peach kernels. The Soothing Syrup is morphia and honey. The bitters are mean whisky, in which some bitter herbs have been steeped to disguise the taste. All these are active stimulants and narcotics.

Let us inquire of the family for what purpose these things

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are used. "Madam, I see some curious decoctions and compounds here on the shelf, will you please tell what use you make of them?"

"Why, bless your soul, sir, them is Doctor Cureall's medicines, and they have done me and mine sights of good. I was reading in Brother Stubbs's newspaper (blessed man!) about this Dr. Cureall's medicines, where he describes the complaints they never fail to cure, and found I was nearly dead with rheumatism, liver complaint, and consumption, before I knew it; and if it hadn't been for them medicines, I'd been in my grave certain. I sent right away and got two bottles of that Expectorant, which cured me, sound and well, and I have never been without them in my house from that good day to this."

"Do you use it still?"

"Not much; but I use them bitters now. Somehow, of a morning I feel weak and tumbly-like, but a dose of them bitters sets me all right. My husband—poor soul! he is dead now, died one month ago this blessed day,—took some bad ailment in the stomach, and the doctors couldn't do him any good. He saw in Brother Stubbs's paper where it says them bitters would cure such ailments, and he took to them and got a heap better, but he took to drink, poor man! and took the dropsy, and the doctors killed him with strong medicine. My little Susana, who died last year, was one year and one month old to a day when she died; she was always troubled with colic and bowel complaint, and would cry itself 'most into fits, but a teaspoonful of that syrup would put it right to sleep in fifteen minutes; but it took brain fever, poor thing! and the doctors couldn't save it."

Reader, do we not see in our last observation and this narrative, the best surface indications of the remote causes of the malady we have been endeavoring to search out? Need we go any farther? Have we not found the key that unlocks the door to the whole mystery, revealing the stages of incubation and development of *dipsomania?*

But we will examine the premises a little farther, and see

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what else we can find. Here is "Brother Stubbs's" newspaper, and here are the advertisements of the articles before us, and here, also, is a flattering notice of the articles, from "Brother Stubbs's" pen, recommending them to the afflicted. This, we see in a denominational religious paper, and is the only thing of the newspaper kind we find in the house, and seems to be held in great esteem by the family—not suspected of containing anything, even in its advertising columns, but what is good for soul and body.

Here is also an almanac, filled with this Cureall's nostrums, and certificates of marvellous cures.

Is it any wonder that the woman has a morbid appetite for stimulants, that the baby died, and the husband "took to drink"? Here we have unmistakable evidence of the primary cause of this fatal disease, in the morbid appetite created by the indiscriminate and injudicious use of stimulants and narcotics under the name of medicine.

And here we have, again, evidence, overwhelming, of the power of the press for evil as well as good, in so much as it takes the first step that leads to the grave nearly half a million human beings annually. The above observation and sad story of the woman is but a truthful picture of thousands of families in the land.

It is difficult to define the line between health and disease; but that an appetite for stimulants and narcotics is a departure from the normal state there cannot be a doubt. In a vast number of cases this abnormal condition has been created by tampering with nostrums for the removal of *imaginary diseases;* and these diseases have been created in the mind by reading descriptions of diseases found in newspapers and almanacs, that will fit some of the feelings of any man or woman, sick or well. I well remember that when I first began to read medicine, I thought I had almost every disease I read about, for there were many symptoms given that fit my feelings, and often I was in distress of mind, and strongly tempted to take medicine, and did actually, at one time, take a dose of digitalis for imaginary heart disease. That cured me.

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For every one that is made a drunkard by sipping wine at social parties, balls, concerts, and tippling shops, many are made so by the use of advertised nostrums. These nostrums are generally disguised stimulants and narcotics, that soon create an appetite that must be fed; and it is easy to step from here into the way of all ruin.

There has been, and still is, much agitation, confusion, and strife, on the best method for the prevention and cure of drunkenness in the land. State and municipal authorities have been besieged on all sides to stop the rolling flood. Millions of dollars have been spent in organizing armies to suppress the evil. Prayers from the bended knees of delicate women in the mud and mire, have been poured into the ears of the Eternal, and the pulpit has hurled its most eloquent anathemas at the head of the monster; but all seem of little avail. Why is this? It is because the case of the drunkard, while it is one of moral depravity, yet the foundation of that depravity is laid in the abnormal condition of his physical nature. Make him sound in body, and then you can make him sound in morals. But there is little hope of the present generation of drunkards. Many cases may be cured, but they are liable to relapse as long as life lasts. As in hydrophobia and some other diseases, the only *sure cure* lies in the prevention of the development of the disease. If we would save the coming generation from the fate of this terrible malady, we must begin at the first outcroppings of the evil, the predisposing causes of which we trace to "Brother Stubbs's" newspaper. A little back of this lies the root of *all evil*—the love of money. If it were not for this, the vile nostrums would not find their way to that mighty engine, the press, and a knowledge of them, and a temptation to their use, would not be thrown in the way of the world. We are taught to pray, "lead us not into temptation." "Brother Stubbs" never, perhaps, once thought that he was tempting men and women to ruin, yet such was the case. Are all our newspapers, especially our religious journals, sold to the God of Mammon? Will not some of them

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inaugurate reform beneath the tree that is so pregnant with the knowledge of good and evil?

"DEATH UNDER CHLOROFORM."

A CARD FROM M. C. CURREY, M. D.

In the June number of the *Nashville Journal of Medicine and Surgery*, a case of death under chloroform is reported by J. R. Buist, M. D., that demands my immediate attention. He says: "On inquiry at the drug-store of M. C. Currey, M. D., where the chloroform was purchased, I learned that it was manufactured by Powers & Weightman, of Philadelphia, and was shown the bottle from which it was taken. *It was a clear glass bottle, and had no wrapping around it; was placed on a shelf directly opposite a window, through which a strong light fell upon it. I did not make any analysis of the article, and have no reason, from its physical appearance, to think it was of bad quality.*" The italics are my own.

In answer, I will state that Powers & Weightman's chemicals are above criticism, and that their chloroform is always put up in "clear glass bottles"; and that it is not customary for druggists to keep "wrappers" on bottles from which they dispense. Yet Dr. Buist endeavors to create a different impression upon the public mind, and would have them believe otherwise. True, the chloroform was upon a "shelf"; but that shelf is seventeen feet from the window, in the chemical case, fully protected by blue glass doors, through which little or no light can pass; moreover, the window is provided with a heavy lavender-colored shade, which obstructs nearly all the

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rays of light; and consequently no "strong light" *can* fall upon it. Dr. Buist must certainly have been aware of these facts.

As regards the "analysis," he should have made a thorough investigation before attempting to palliate his misfortune, or to shield himself, by such grave insinuations; or attempting to shift some of the responsibility upon my shoulders.

M. C. CURREY, *Druggist*,
190 Church street, Nashville.

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Selected Articles.

NOVEL TREATMENT OF OBSTINATE VOMITING IN PREGNANCY.

BY EDWARD COPEMAN, M. D., F. R. C. P.

In furtherance of the views I expressed at our last annual meeting of the Association, *that practical knowledge should be freely communicated to the profession through our Journal,* and which I still urge upon the attention of our members as a valuable means of effecting improvement in the treatment of disease, I forward three cases which have occurred recently in my own personal experience, and which, if further corroborated, may open a wide field of usefulness in the treatment of a very obstinate, rebellious, and sometimes fatal form of sympathetic disorder. The disease to which I refer is urgent sickness in connection with pregnancy, which is now and then so severe as to render premature delivery necessary to save the life of the mother.

During a long professional life, I have had much experience of this troublesome affection, and amongst medicines have found calumba and oxalate of cerium the most beneficial; but these and all other medicines often fail, and the treatment suggested by the following cases, discovered by accident, as it were, and never, as far as I know (although nothing is new under the sun), employed before, promisis some chance of our being able, with more certainty, to overcome this very threatening concomitant of pregnancy.

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On June 9th, 1874, I was summoned to a lady, thirty-five years of age or thereabouts, to consult with two other practitioners already in attendance. She was about six months gone in pregnancy, and was so reduced by almost incessant vomiting that great fears were entertained as to her safety. I noticed there was slight uterine action accompanying the sickness, and, on examination, I found the os uteri partially dilated, so as readily to admit the finger. I thought it right, under the emergency, to advise bringing on labor without delay; the gentlemen present, however, expressed no little apprehension as to whether or not she would have strength to undergo the effort of parturition on account of the very depressed and exhausted state of her system. They nevertheless concurred in the advisability of the course I recommended, and asked me to perform the operation.

I at once dilated the os uteri as much as I could with the finger, and could feel the membranes and the head of the child. I tried to rupture the membranes with a telescopic female catheter (the only instrument at hand), but they were so flaccid, and the head offered so little resistance, the catheter shortening itself also on my making pressure, that I could not succeed; and, thinking it wise to wait awhile before resorting to any other expedient, we retired to another room for further consultation. In about one hour we saw the patient again, and were surprised to find that a longer period had elapsed, without sickness, than before; and we again waited, in the hope that she might be able to take a little nourishment, and so be better prepared to undergo any further proceeding. We waited another hour, and another, but there was no return of vomiting; and we spent the rest of the night in watching, during the whole of which time she was improving, and we determined to let well alone.

I left her early in the morning, and had a favorable account of her a few days afterwards. There was no return of sickness; she went on to the full period of pregnancy, was then delivered of a healthy child, and made a good recovery.

This case made a strong impression on my mind; and I

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wondered whether the relief to the vomiting, so urgent and threatening to her life, could have been effected by my having dilated the os uteri, and thus removed any undue tension that might be producing sympathetic irritation.

It was not long before I was called some distance into the country to consult about another case of vomiting during pregnancy of great urgency, occurring about the second month. The surgeon in attendance had adopted the best acknowledged medical treatment, and had arrived at the conclusion that artificial delivery would be necessary to save her life. With the full recollection of the former case, I examined the uterus, and found some degree of anteversion and the os patent enough to admit the end of my finger. I forthwith dilated it as much as I could, passing my finger all around, removing all puckering, and making a smooth edge. She vomited only once, and then slightly, after this proceeding, and we left her with the understanding that, if the sickness continued, I should be summoned again in a few days to bring on abortion.

This summons never came; but in about a fortnight I had a letter from the husband, stating that his wife began to get better an hour or two after I left, and that the sickness had entirely ceased. I have heard several times since that the patient is going on remarkably well, and I believe she expects to be confined some time this month.

A third opportunity has since offered itself for a trial of this novel (as far as I know) treatment. On the 6th of this month (April, 1875,) I saw, in consultation with a very intelligent country practitioner, a lady in delicate health, just entering the eighth month of pregnancy. She was the mother of nine or ten children, and her life was valuable. Generally, during early pregnancy, and sometimes for several months together, she had been troubled with vomiting; but during the last three weeks, the sickness had been almost incessant; she could keep nothing down, and was in a very feeble and emaciated condition. She had, moreover, a considerable amount of albumen and some pus in the urine, a few casts also; and fears were entertained of there being extensive kidney-disease.

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There was, however, no dropsy, and our opinion was somewhat modified by the knowledge that the urine does often, during pregnancy in the latter months, contain a good deal of albumen. The patient was so ill, that she would willingly have consented to artificial delivery, if really necessary. I examined the uterus, and, as in the other cases, found it patent, puckered, and dilatable. I dilated it as much as I could with my finger, in the hope that the sickness might cease after such a proceeding. I should say that the usual remedies had been carefully employed without producing the desired effect.

A few days after my visit, her husband called upon me to say that his wife had no return of sickness after I left, and was now able to take food without inconvenience, although he still thought her very weak and ill, and feared she would not recover.

On the 23rd I received a very satisfactory letter from the surgeon in attendance, to the following effect: "I am exceedingly glad to tell you that Mrs. —— was confined yesterday. I should think it not more than an eight months' child, still it looks healthy and strong. You may most certainly add her case to the others you related to me. *There never was any urgent sickness after you dilated the os uteri,* and the last week Mrs. —— has frequently taken, with relish and no inconvenience, solid food, such as boiled mutton with asparagus, and drank home-brewed beer. This morning she was going on quite well; she was not even faint, or at all exhausted, after her labor. I am very glad I called you in, for I now know how to proceed with cases of sickness in pregnancy. Should I meet with any more patients, I will either ask you kindly to meet me again, or report them to you."

This subject appears to me of so much importance, that I send my cases for publication without waiting for further experience or attempting to explain the *modus operandi* of the treatment suggested. It is my intention to communicate farther on the matter when I have more thoroughly digested it myself; and I will not fail to report any future success or failure that may come under my observation. I trust, moreover,

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that others who may be induced to pursue the same plan of treatment will report their experience for the guidance and instruction of the profession.—*British Medical Journal*, May 15, 1875.

NYMPHOMANIA AND VAGINISMUS CAUSED BY ANAL FISSURE.

In a recent paper "On some Forms of Rectal Diseases of Women," Dr. Edward W. Jenks, of Detroit, writes as follows:

Many of the disorders to which the rectum is subject are, without doubt, of much more frequent occurrence among women than men. The association of uterine and rectal diseases is quite common, as may also be said of uterine and vesical disorders. The truth is, that the continuity of tissues, the distribution of nerves and vessels, and the intimate relationship existing between the pelvic organs, render it obvious why disorder, either of function, structure, or place of one, may produce analogous condition in another. To treat symptoms alone in diseases of the pelvic region, as in any other part of the body where viscera can be subjected to physical exploration, is most thoroughly unscientific. There are certain symptoms common to all pelvic diseases of women; others are peculiar to certain individual diseases. I am prompted to mention this as prefatory to a short paper upon certain forms of rectal diseases, for the reason that I have known many cases of disorders of the rectum where the patient had been treated alone for uterine disease, and *vice versa*, and I design mentioning some cases in illustration of the assertion.

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[From those reported, we extract the following interesting cases of Fissure of the Anus]:

Nymphomania.—M. R——, aged 20, unmarried, was sent to me by one of my former pupils as a patient that was extremely unfortunate, on account of her insatiable venereal appetite, but that it had existed only a short time, and that as yet she had not been guilty of any offence in that direction beyond masturbation. She was put in a quiet boarding-house, and under the most careful surveillance. Every symptom indicated some pelvic disorder, rather than a mental disease. Examination of the generative organs revealed no indication of their disease beyond an undue congestion of the external organs, and especially in the neighborhood of the clitoris, where there was a slight abrasion. I learned that defecation was followed by excruciating pain, and upon examining the rectum, I found a broad, irritable ulcer, just within the verge of the anus.

Ether was administered by Dr. Walker, when I made forcible dilatation of the *sphincter ani externum*, after the manner first suggested by Recamier. It is needless, for my present purpose, to follow up the details of treatment in this and the other cases reported in this paper. I will only add, that it was a matter of astonishment to the few medical gentlemen familiar with the history of this patient to observe that, with the cure of the anal fissure, the nymphomania disappeared. She has since married, and when I saw her last she informed me that she was in excellent health, and happy in her new relationship.

Vaginismus.—Mrs. S——, aged 34, had considered herself, for some years, as a sufferer from uterine disease. When I first saw her she was confined to her bed, and had been, most of the time, for the preceding six months. She had been told by her medical attendant that in all probability there was some disorder of the womb that was producing all her physical ailments. The local treatment advised consisted of emollient and astringent vaginal washes. Every symptom of which

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I could learn, caused me to think there was some form of disease of the uterus or its annexes.

Upon attempting to make a digital examination of generative organs, I was compelled to desist, on account of the severe spasmodic pain my finger produced at the ostium vaginæ. My diagnosis of the case was vaginismus, which was further corroborated when I learned that coitus had been for a long time impossible, and the few attempts at it had been followed by days of suffering. At this time my attention was not directed to the rectum for any symptom or complaint of the patient, but at a subsequent visit I found her exhibiting symptoms of the most intense agony, and, upon inquiry as to its cause, learned that her bowels had just moved, and that for more than two years, whenever she had had an evacuation of the bowels, her sufferings had been of a like character, while for the past three months they had been gradually increasing in severity.

I then attempted to make a digital examination of the rectum, but soon found that it caused such severe pain that I deferred it two days, when ether was administered. I then discovered the cause of the patient's intense suffering to be due to a broad and unusually deep fissure within the anus, together with one of those small and extremely sensitive excrescences so frequently found cropping out from the mucous membranes of this locality, as associates of irritable ulcers of the rectum. I removed the small growth, and then forcibly dilated the sphincter after the usual method.

The patient made a good recovery, and with the cure of the fissure there was an end to both the painful defecation and the vaginismus. The removal of the latter difficulty was apparently quite as satisfactory as the relief from physical suffering, for its existence had begun to be a cause of the most disagreeable sort of domestic unhappiness. The transition from a bedridden patient to a lady of active habits was quite rapid, nor did she require much further medical treatment.—*Detroit Review.*

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CONCERNING THE RAPID REGENERATION OF THE RED GLOBULES OF THE BLOOD.

The Clinic copies the following from the *Gazette des Hôpitaux* of Jan. 26, 1875:

In a memoir recently presented to the Académie des Sciences, Dr. Rabuteau, in pursuance of his investigations, took up again the question relative to the acidity of the gastric juice. He succeeded (what has not heretofore been attained) in isolating and measuring directly the hydrochloric acid, which, according to the lessons of Prof. Wurtz, Dean of the Faculty of Medicine, and according to M. A. Gautier, chief of the laboratory of biological chemistry, is, in reality, the free acid which exists in the gastric juice. The importance of this physiological datum in reference to ferruginous medication may be readily appreciated. It is this fundamental datum which inspired Dr. Rabuteau, already during several years, with the idea of making researches on the part played in the organism by the chlorides in general, and particularly by alkaline chlorides and the protochloride of iron. The results of physiological experiments and of numerous observations in the hospitals of Paris have demonstrated—

1. That iron, in order to be absorbed and entirely assimilated, must first be transformed in the stomach into the protochloride.

2. That the protochloride of iron regenerates the red globules of the blood with very great rapidity.

These earlier investigations having been already published, we will not recapitulate. But we believe it will prove useful to our readers to put before their eyes the more recent results which give an idea of the rigorous exactitude of the methods of science at the present day.

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A distinguished physiologist, Dr. Malassez, has invented an apparatus to which he has given the name *compte-globules*, and which permits the exact number of globules contained in a given volume of blood to be determined (*comptes rendus de la société de biologie*, 1872). By this means it is possible to follow, with precision, the progressive regeneration of the red globules under the influence of ferruginous medication. This ingenious apparatus enabled divers hospital physicians to verify the therapeutic value of the protochloride of iron administered in a pure and proper form. From among the observations made on this subject, we will content ourselves with reporting the following, which is full of interest:

The subject of observation was a young woman profoundly chlorotic, admitted into Necker hospital ward, Sainte-Anne, and subjected to treatment and observation on the 4th of December. Her blood, examined by the *compte-globules* of Malassez, contained only 2,919,000 red globules per cubic millimetre, the normal average being about 4,500,000 per cubic millimetre (figures given by M. Malassez). She took morning and evening, at meal time, two dragées, containing each 25 milligrammes of protochloride of iron of Rabuteau. Successive examinations made up to the 24th of December, the day of leaving the hospital, gave the following results:

Number of red globules per cubic millimetre—

Dec. 4 (day of admission)	2,919,000
Dec. 7	3,486,000
Dec. 12	3,696,000
Dec. 24 (day of discharge)	4,578,000

The patient, therefore, gained, in twenty days, 1,659,000 globules per cubic millimetre; in other words, 82,950 red globules per cubic millimetre of blood, on an average, every day. We should add that, during the treatment, the appetite was excellent; there was neither diarrhœa nor constipation.

In addition to this interesting observation, we will relate the three following communications:

1. Observation of Dr. Anger.—Mrs. X——, aged 33 years,

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mother of four children, has suffered several months with the most marked symptoms of confirmed chlorosis. Characteristic discoloration of the skin and mucous membrane, repeated palpitations of the heart, menstrual derangements with leucorrhœa, loss of strength, appetite variable, capricious, digestion distressing, painful tumefaction of the epigastric region, neuralgic pains, frequent desire to cry, etc. etc. After having undergone, without benefit, diverse methods of ferruginous treatment, she was put upon dragées of protochloride of iron of Rabuteau, and in fifteen days experienced so much relief that she considered herself cured. Her nervous condition was rapidly ameliorated, her digestion became regular, and her strength re-appeared. Treatment was continued for a few weeks more, and recovery confirmed. In spite of the large dose of eight dragées a day, which the patient took, no constipation was manifested.

2. Henri Gripat tried, in a number of cases of chlorosis, the protochloride of iron, either in the form of dragées, or in the form of elixir. The general result of his observations were the following: The protochloride of iron was always perfectly digested, produced no gastralgia, no cramps, no eructations, no constipation, no diarrhœa—in a word, it was always perfectly tolerated. Under the form of elixir it was remarkably successful.

3. Dr. Louis Gavandan, doctor of colonisation at Oued-Zenati (Algeria), practices in a country with a very debilitating climate, in which cases of anæmia, of cachexia, and chlorosis, are frequent and inveterate. In the habit of administering iron in all its forms, he has ascertained that protochloride of iron reëstablishes, more rapidly than any other preparation, subjects profoundly anæmic, and that "the dragées act more quickly, and do not produce constipation."

In presence of these exact experiments, and of these conclusive clinical observations, it may be affirmed that the dragées and the elixir of protochloride of iron of Dr. Rabuteau are eminently hematopoietic, since it is shown that these preparations regenerate the red globules of the blood with a rapidity

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which has never been observed in the employment of any other ferruginous preparation.

We will conclude by borrowing from the excellent work of Dr. Ferrand, physician to the hospitals, the following passages, which lend a considerable support to the above-mentioned facts:

"The protochloride of iron is the salt which ought oftenest to be prescribed, since it is necessary that iron should be changed into this form in the stomach in order to be absorbed into the blood. The other salts of iron undergo a decomposition which is manifested by the passage of iron in the excrementitious matters, through the biliary ducts. In regard to the salts of the organic acids, often considered as most easily assimilated, it is to be feared that they may become transformed into the insoluble carbonates, capable of causing drainage in the tissues in the character of foreign bodies; it is therefore better not to prescribe them."—A. FERRAND, *Traite de therapeutique medicale*, Paris, 1875.

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Extracts from Home and Foreign Journals.

SURGICAL.

THE STRUCTURE OF THE MUCOUS MEMBRANE OF THE UTERUS.

A valuable contribution to our knowledge of the physiology of menstruation has been made by Dr. John Williams, in a paper published in the last number of the *Obstetrical Journal*, "On the Structure of the Mucous Membrane of the Uterus, and its Periodical Change."

Dr. Williams investigated the microscopical characters of the uterus in twelve cases of persons dying at various known periods from the last menstrual bow. He was thus enabled to trace the cycle of changes which occur in the mucous membrane during the inter-menstrual period and at the time of menstruation. Space forbids our doing more than give a brief outline of his results; for the detailed observations we must refer to his concise and careful descriptions and drawings.

Starcing from the time of cessation of the menstrual flow, when the mucous membrane of the cavity of the body of the uterus had almost entirely disappeared, that of the cervix remaining intact, he found that a rapid reformation of the membrane occurred, commencing at the lower part of the cavity, and becoming complete some days before the recurrence of the menstrual flow. Fatty degeneration of the mucous membrane then took place, preceding the occurrence of hemorrhage, and probably being the cause of it, and at its occurrence there was rapid disintegration and removal of the membrane.

Microscopically, at the end of menstruation the bundles of the muscular coat were found to form the inner wall, covered

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only by some loose fattily degenerated cell-elements; mingled with the muscular fibre-cells were round granular cells, blood-corpuscles, and small fusiform cells, whilst deeper in the muscular coat were remains of glands lined with columnar epithelium, and groups of rounded cells which possibly represent the terminations of glands. The epithelium first appeared near the cervix, where it lay upon a thin layer, composed of round and fusiform cells, and glands imbedded in a structureless matrix. Beneath these were the muscular coat, and well-developed glands lined with columnar epithelium. Dr. Williams was unable to determine the precise mode of formation of the columnar epithelium, but his observations pointed to the probability of its being renewed by extension from that of the cervix. The subsequent complete growth of the epithelial lining and of the glands having attained its height, fatty degeneration speedily sets in, and another menstrual epoch occurs.

Dr. Williams's researches afford a much-needed addition to our knowledge on this important subject, and his paper will repay a careful study.—*London Lancet.*

SIR JAMES PAGET ON SYPHILIS.

Sir James Paget thinks that there certainly is a group of cases characteristic of syphilis implanted in the gouty. Some of this group were among cases of syphilitic periostitis. He would not say that that extremely painful form of syphilitic periostitis belonged to any special constitution of the person in whom it was found; but it seemed certain that chronic synovitis, which was associated with tertiary syphilis, was, in the majority of cases, to be found in the gouty. So, too, a large proportion of the syphilitic psoriasis of the tongue was to be found in gouty cases; and the same was true of a considerable proportion of the later tertiary eruptions.

The extreme diversity in the phenomena attending what was called tertiary syphilis, was an interesting subject for study. How was it that, in the later stages of the affection, one person had a perforating ulcer of the septum nasi, another rupial

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sores, another chronic synovial inflammation of the joints, and another a peculiar psoriasis of the tongue? Doubtless all these might have been derived from syphilis; but the syphilis had, in every instance, been planted in a different constitution, or, at least, in a different personal condition. Syphilis inoculated in a person with a tendency to scrofula or tuberculosis would produce a very different series of events from that which the same poison would produce in a person previously healthy, or, again, in one who was gouty.

This subject—namely, the great varieties that were produced in the series of syphilitic affections by the peculiar constitution of the person inoculated, seemed to have been too little studied in the general pathology of the disease. It might, for instance, be doubted whether syphilis, implanted in any other than a tuberculous or scrofulous person, would ever produce destructive ulceration of the soft parts of the nose. That form of syphilis was almost certainly the syphilis implanted in the tuberculous diathesis.

In the later stages the forms that syphilitic disease assumed depended almost as much upon the constitution of the person affected as upon the original nature of the poison itself. An important point in the treatment of syphilis was associated with this fact. It was often said that mercury and iodide of potassium were uncertain in their effects upon syphilis; and this was true, if they were given without any consideration of the constitution of the patient. Large doses and long courses of mercury would do a tuberculous or scrofulous person more harm than would result from leaving his syphilis altogether without treatment.

But, to speak only of the gouty diathesis, as mingled with syphilis, it was necessary, in the treatment of every gouty syphilitic person, to consider his gout as well as his syphilis. Iodide of potassium should be prescribed, largely diluted with any of the alkaline waters useful in gout. Small doses would, when given in this way, do more good than much larger doses prescribed alone. The physicians of Aix-la-Chapelle, Wiesbaden, and other health-resorts on the Continent, had gained

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a great reputation for the cure of syphilis in the later stages. Their treatment consisted in the employment of mercurial inunction combined with the use of baths and drinking of large quantities of alkaline and other sulphurous waters. Much of their success depended, no doubt, on the fact that their treatment was beneficial not only to the syphilis, but also to the general constitution of the patient.—*The Doctor.*

NÆVI.

In the *Lancet,* Mr. S. J. Knott gives an account of forty cases of nævi which he treated successfully by electrolysis. He employs Stohrer's and Meyer and Meltzer's continuous batteries. In general, he uses six or eight cells, but the number varies according to the size of the nævus. He says that if the nævus is but small, he uses one or two needles, attached to the negative pole, and one to the positive, and passes them into the tumor; if large, he puts several needles in the negative cord, and uses charcoal point with the positive. After the needles have been in the tumor a short time, decomposition begins to take place, shown by bubbles of gas passing by the side of the needles. A clot is then formed, the tumor becomes bluish-white, and "in this clot fibrous degeneration takes place, and ultimate cure is the result."

Mr. Knott says:

"The advantages of the galvanism are its certainty of action, its safety, the faintness of the cicatrix, and the cessation of pain directly the operation is over. I have used every other method, and I certainly think this by far the best."—*Ibid.*

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Editorials, Reviews, Etc.

TO OUR READERS.

It is with feelings of sadness that we part, editorially, with our old friend and colleague, Dr. Bowling. The five years of our association with him in the JOURNAL has passed most pleasantly—not a ripple has disturbed the current of our editorial lives. A determination long since formed that twenty-five years should close his editorial life, causes Dr. Bowling to retire, that he may the better "set his house in order." He withdraws with the good will and kind regards of every one connected with the JOURNAL.

With our advent to Nashville, Dr. Bowling's friendship to us commenced, and in every condition, and under every circumstance, this friendship has continued unabated. Our youthful ambition was always aroused and excited by his kind assuring words, and in our battle for professional position, he was ever willing and anxious to give his powerful aid. To him, more than any living man, are we indebted for whatsoever of professional success we have attained.

The JOURNAL will hereafter be conducted editorially by Thos. O. Summers, Jr., M. D., (now in Europe), and the undersigned.

We have but few promises to make to our readers. The great aim of the JOURNAL will be to support the honor and dignity of the profession, and to make its influence conducive to the welfare of the whole medical fraternity. We will at-

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tempt to keep our readers abreast the times, by bringing before them every discovery that is likely to be useful. Medical Ethics will claim a due share of our attention, and while we will be willing, at all times, to discuss medical topics with our contemporaries, we will, on no account, permit personal controversies to occupy space in our pages. If at any time we feel personally aggrieved, we will seek redress in some other way than through the JOURNAL.

As both of the editors are professors in the Medical Departments of the University of Nashville and the Vanderbilt University, it will hardly be expected of them to say that they are independent of schools. So far as lies in our power, we will do everything that we can honorably do to foster and build up those institutions.

We appeal to a liberal profession everywhere for contributions to our columns, and for an increase in our patronage, that we may increase the size and usefulness of the JOURNAL.

W. T. BRIGGS.

GEN. JOHN C. BRECKINRIDGE.

THE case of this distinguished gentleman has been the subject of much comment from the secular press, and in several instances the comments have not been very complimentary to the surgeons who were called in consultation. The people, too, forming their opinion from telegraphic dispatches and from the press, have not been slow to condemn the means used by the distinguished surgeons.

During the late war, there was a class of men who, too cowardly to go to the field, remained at home, and occupied their

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time in making comments on the action of the officers who led the armies. In every instance of defeat they knew the exact cause that led to it, and if *they* had had charge of the army, how different would have been the result! And so in this instance: Editors of secular papers and others, who know nothing of the great science and art of medicine, take the liberty of discussing the merits of the case, and sitting in judgment on the action of two of the most distinguished surgeons of the United States!

No physician or surgeon, however eminent, would think of doing so. He knows that no one can form an exact idea of what should be done in any case without a thorough personal examination.

Dr. L. A. Sayre has written a full and frank account of the case of Gen. Breckinridge, and the operation performed for his relief, to Dr. Keller, of Louisville, which has been published in the *American Medical Weekly*, and we give it to our readers that they may know what was done in the case of the great Kentucky statesman:

THE OPERATION ON GEN. JOHN C. BRECKINRIDGE. HIS REMARKS, ETC.—AN OPEN LETTER.

BY LEWIS A. SAYRE, M.D., NEW YORK.

I only arrived home yesterday, and found your kind letter of last week had been waiting for me some days. I was in such intense agony yesterday, from the inflammation in my ankle-joint, which had been increased by traveling, that I could not write, and I now do so while lying on my back, and you must, therefore, excuse the chirography.

I will simply give you a statement of facts, so far as I was connected with the case, and you can then judge of the absurdity of many of the newspaper statements.

On arriving at Lexington, the car in which I was sitting could not get up to the platform of the dépôt, and I was compelled to jump down some two feet or more, and unfortunately stepped with my heel on a small loose rock, which twisted my

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foot outward, and caused the most intense pain for a few minutes just over the internal lateral ligament of my left ankle. After a few minutes, I was able to hobble around the car to where the carriages were, and found Dr. Blackburn, with a carriage, which, the driver said, had been sent by Dr. Desha for Drs. Gross, Blackburn, and myself, to see Gen. Breckinridge. As I had been informed by some one that Dr. Dudley was his physician, I refused to go, but went at once to the house of my cousin, E. D. Sayre, and Dr. Gross went with the Prestons.

While taking off my shoe to see what damage I had suffered, Dr. Blackburn drove up, and said Dr. Desha was waiting for me and Dr. Gross at Gen. Breckinridge's house, and that Dr. Desha, and not Dudley, was his attending physician. I did not take off my stocking to examine my foot, but immediately put on my shoe and went with him. Dr. Desha received me very courteously, but said he had been waiting for me since 11 o'clock. I informed him that I had not come from the car direct because I had understood Dr. Dudley was in attendance, and as I had received no message from him, I refused to come. He then informed me that he was the only physician in attendance since the death of Dr. Bush.

In a few minutes Gen. Preston came in, and said Dr. Gross would not come, as he had not seen Dr. Dudley, (doubtless under the impression that Dudley was in attendance). Desha seemed a little hurt, and replied rather sharply that he was the only one in attendance; and Gen. Breckinridge then said: "Let *me* settle this matter, if I *am* a sick man. You all want to go to the races, and it is now 12 o'clock. Desha, go with Preston, and take your lunch with Gross, and then go to the races; and Blackburn, you go with Sayre. After the races, come and overhaul me at 4 o'clock." I think these were his exact words; read this to Dr. Blackburn, and he can correct any error.

We met at 4 p. m.—Desha, Gross, Blackburn, and myself. After a full history, from Desha, of his case for the past three months, and from himself of his previous condition, we made

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a very careful physical examination of his whole body; first by Dr. Gross and then by myself. He was very much emaciated and anæmic; in fact, almost bloodless. The feet were very slightly œdematous, which might easily occur from his position (upright) in his anæmic state. There was no effusion in the abdomen; the chest was perfectly resonant and normal *all over the left side.* The same condition in right side in its *upper* two-thirds. The lower portion of the right side dull all around; intercostal spaces rounded out, and, on measurement from median line to centre of spine, one inch and seven-eighths larger than opposite. In the upright posture, percussion gave dullness at a fixed line, which was marked with a pencil. (In almost every instance when I put the pencil on him, he remarked, "That's it"; "there you are"; "you are right on the line," or some similar observation.) On laying him over forward, the line of dullness changed position, extending higher in front and more resonant behind and below the line of dullness when upright, showing that the dullness was from a fluid and not from consolidation. On shaking him, *no* succussion sound was obtained, leading us to believe that the fluid was not in the pleural cavity, but deeper seated.

We then went out into the yard for consultation. Here Dr. Desha showed us two large tin spittoons containing the expectoration since 5 o'clock a. m. (eleven hours). We were amazed at the amount (one quart a pint and a half). The Doctor said some days it was much more, often nearly four quarts in twenty-four hours. When he could expectorate freely, he was comparatively comfortable; but some days he coughed but little, and raised almost nothing, and then he seemed as if he would die of suffocation. He read to us a microscopical examination of the discharge, showing bile pigment and other evidences of having come from the liver.

Our diagnosis was probably (original) cirrhosis of the liver, subsequent inflammation of lower lobe of right lung, adhesions of liver, diaphragm, and lung, with abscess of liver and lung, which had found an outlet through the bronchi. Death was inevitable, and his only hope of prolonging life or being com-

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fortable was by making an outlet below to save him the effort of coughing up this immense amount of offensive, viscid, tarry pus, blood, and mucus, and which Dr. Desha stated had often threatened to suffocate him.

After carefully considering the whole case, we all agreed that this was the only chance to make him comfortable, and if successful, might probably prolong his life, but never cure him. Dr. Gross was selected as the one to explain it to Gen. Breckinridge. This he did in a most clear and satisfactory manner. Gen. B. asked a few very intelligent questions about the operation, mode of performance, dangers, etc., which Dr. Gross explained in his usual clear and lucid way. He then sat quiet for about three minutes, looking at each of us most intently with those great eyes, as if he would look us through; then straightening up with great dignity, and in a clear, full, sonorous voice, but with the sweetest melody in it, said:

"Gentlemen, I am under the greatest personal obligations for this great kindness, for your courtesy and attention, in coming this great distance to give me so careful an examination. I wish to express to you my warmest gratitude. I feel perfectly satisfied, from your address and Dr. Gross's clear description, and from my own sensations, that you have a perfectly clear and exact conception of my present condition, and that your proposition offers me *all* that science can now do for me. I only wish to add that I am not only willing, but anxious, to have the operation performed, and I am now ready to submit to your knife."

The magic of his enunciation was such that Dr. Gross remarked: "General, your voice seems as clear and strong as ever."

Throwing his arm with a beautiful gesture, and with a beautiful smile, he said: "Why, Doctor, I can throw my voice a mile."

He was anxious to have the operation done at once, but Dr. Gross explained to him that he was weak, exhausted from the examination, and the recent coughing had emptied the sac, and in his present condition the operation might be dangerous;

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better wait till morning, when the sac would be full, he rested, and the operation much easier performed.

Ten o'clock a. m. the following day was the time appointed, and we left. Dr. Gross had appointed me to perform the operation. Dr. Blackburn went to a silversmith and had a canula made to insert in the wound after the operation.

I went to Gen. Preston's to dinner, but my ankle pained me so much that I had to return. By the next morning the inflammation had so increased that I was compelled to get crutches, and it was with the greatest difficulty that I was able to get to General B.'s at the hour appointed.

When I arrived, I found him dressed, and in the parlor, instead of being in bed, ready for the operation. Seeing me come in on crutches excited his sympathy, and he immediately began to talk. Dr. Gross and myself both tried to keep him from talking, fearing it would excite coughing, but he would persist in expressing his regrets at my misfortune, and finally began to cough. Dr. Gross administered a little ether to quiet the cough, but he resisted violently, saying "it was no use; when it got started it must come"; and with great effort, almost like immediate suffocation, he coughed up an enormous amount of the same material we had seen the day before.

Of course the abscess being again emptied, we were in the same condition as on the previous day. But as Dr. Gross was to leave at 2 p. m., and Dr. Blackburn also, it was thought best not to wait, particularly as we had all then just had an opportunity of witnessing the imminent danger that he was in at every effort he made to unload himself of this enormous collection.

After coughing up a little over a pint and a half, he seemed comfortable; was put to bed, and chloroform administered. I made an incision, one and three-fourth inches in length, along the upper border of the eighth or ninth rib, into the pleural cavity; no pus escaped, proving our diagnosis that the fluid was not in the pleural cavity was correct. The lung receded before the atmospheric pressure, and the finger, passed into the cavity, could feel the walls of the diaphragm and ad-

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herent lung, but we had no trocar long enough to reach it, and it was decided to wait until the abscess again filled, which would bring its walls near the external opening, and then puncture with trocar or aspirator.

Six o'clock Wednesday morning was the hour fixed, Dr. Gross expecting to leave at 7. I got home with great difficulty, was put to bed, and could not leave it until the following Sunday, not even to sit up five minutes. Consequently I sent my son next morning to inform them of my illness, and request Dr. Gross to complete the operation. He returned, and informed me that they thought the General was dying, and did not open the abscess.

For particulars of his condition from this time until the Monday following, I must refer you to Drs. Gross and Desha. Dr. Desha was with him almost the whole time, night and day, and can give an accurate account of his daily condition. All sorts of rumors came to my bed-room almost every hour, but I knew nothing definite or reliable until Sunday afternoon. Dr. Desha called on me, and stated that he was rapidly sinking—no cough or expectoration for some hours; abdomen distended to its utmost capacity; speaking only in a whisper.

I saw him the next day (Monday) at 10 a. m., with Dr. Desha. He was lying flat, almost horizontal, for the first time; breathing perfectly normal; his face bright and cheerful; the tympanitis had entirely subsided, and there was not the slightest pain over the abdomen, or effusion into it; the odor of the room was terrible, although the window was open. On smelling his breath I found it not offensive, but on lifting his shirt, it was found saturated, the discharge having soaked through his bandages; and when the bandages were removed, the offensive gas was found to escape from the opening. The wound was gaping wide (in fact, was almost circular,) and filled with a white slough, looking like wet cotton; taking it with the forceps, a large piece tore off, giving exit to considerable fluid. Taking it again with the forceps, and pulling gently in different directions, and snipping two small thready attachments with the scissors, a piece was removed larger than

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a white walnut, without one drop of blood. Immediately the pus flowed in quite a stream, and, of course, I felt delighted. I did not insert any canula, as stated in the papers, as there was no need for any. The wound was covered with oakum wet in carbolic acid, and secured by a roller applied by Dr. Desha. He then washed his hands and face, put on clean linen, combed his own hair, and asked for his breakfast. He drank a half cup of beef tea and ate a slice of toast, and then drank two large goblets of milk and cream, half and half, (not brandy, as in the newspapers). He sat up in bed himself, and said he felt much better than when I first saw him, a week ago, and he certainly looked much better. He talked cheerfully, and commented on the various newspaper articles. One of them, the *Lexington Daily Press*, which had described him as "suffering from an attack of New York surgery," he said was infamous and atrocious. Dr. Desha, Col. W. C. P. Breckinridge, and my son, were present, and heard his remarks.

Of his expressions to me personally I prefer to say nothing, but refer any one who is anxious to know what his views were as to the diagnosis, necessity of the operation, and the manner of its performance, to the other gentlemen who were present and heard his remarks.

I certainly left him feeling greatly encouraged, and hoped that he might be prolonged for some time in comfort, although no one ever deceived him with the idea of a perfect recovery.

I have thus given you a minute account of everything that occurred in the case while I was with him. You must pardon this minuteness, for when there have been so many erroneous statements, I thought it better to correct them all at one time, and answer no others.

I have sent a copy of this to Dr. Gross, requesting him to draw up the case for some medical journal, and if he does not do so, you can read this to Gaillard, Yandell, or any other editor who wants to know the truth.

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TENNESSEE STATE MEDICAL SOCIETY.

THE Tennessee State Medical Society held its annual meeting at Nashville, on the first Tuesday, the 6th of April last. The assemblage of members was larger than for several years past.

The address of the President, Dr. Murfree, was an able and eloquent one.

Many valuable papers were read and ably discussed.

The Society determined to publish its transactions in pamphlet form, which, when completed, will be the first volume of Transactions published by the Society since its organization. The transactions have been heretofore published in medical journals—this journal being the medium for the past twelve or fifteen years. This is right, and we think will mark an era in the Society.

The following officers were elected for the ensuing year:

President—J. H. Van Derman, M. D., of Chattanooga.

Vice-Presidents—P. D. Sims, M. D., Chattanooga; J. J. Abernathy, M. D., Pulaski, and P. F. Evan, M. D., Union City.

Corresponding Secretary—E. M. Wight, M.D., Chattanooga.

Secretary and Treasurer—J. D. Plunket, M. D., Nashville.

WE regret the fact that several errors appear in the article on "The Nature of Morbid Poisons," in our June number, but they are of such a character as to be easily detected by the careful reader.

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MEDICAL COLLEGE HOSPITAL.

THE Faculty of the Medical Department of the University of Nashville and of the Vanderbilt University have, very wisely, we think, determined to erect, upon the College grounds, a large building for hospital purposes. The foundation for the building is already commenced, and the contracts for the entire work are taken. The building is to front on College street one hundred and fifty-six feet, to be two and three stories high; it is to possess all the modern improvements and conveniences, with a capacity of from two hundred and fifty to three hundred patients. It will be finished and occupied by the first of October next.

WE decline to send specimen copies to the numerous applicants. It has long since become a nuisance.

THE Annual Announcement Catalogue of the Medical Department of the University of Nashville and the Vanderbilt University are now ready for distribution.

THE Editors will not be responsible for views expressed by contributors.

BOOK-NOTICES have been crowded out. They will appear in our next.

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BOOKS AND PAMPHLETS RECEIVED.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by Dr. H. von ZIEMSSEN, Professor of Clinical Medicine in Munich, Bavaria. Volume III. Chronic Infectious Diseases. By Prof. CHRISTIAN BAUMLER, of Erlangen; Prof. ARNOLD HELLER, of Kiel, and Prof. OTTO BOLLINGER, of Munich. Translated by ARTHUR H. NICHOLS, M.D., of Boston; WM. ASHBRIDGE, M.D., of Philadelphia; JAMES G. HYNDMAN, M.D., of Cincinnati; and EDWARD B. BRONSON, M.D., and EDWARD L. KEYES, M.D., of New York. ALBERT H. BUCK, M.D., New York, Editor of American Edition. New York: William Wood & Co. 1875.

A MANUAL OF DIET IN HEALTH AND DISEASE. By THOMAS KING CHAMBERS, M.D., Oxon., F.R.C.P., London, Honorary Physician to H.R.H. the Prince of Wales, Consulting Physician to St. Mary's and the Lock Hospitals, Lecturer on Medicine at St. Mary's School, Corresponding Fellow of the Academy of Medicine, New York, etc. Philadelphia: Henry C. Lea. 1875.

GEO. P. ROWELL & CO.'S AMERICAN NEWSPAPER DIRECTORY: Containing Accurate Lists of all the Newspapers and Periodicals published in the United States and Territories, and the Dominion of Canada. New York: Geo. P. Rowell & Co. 1875.

MEDICAL ADDRESSES. By BENJAMIN EDDY COTTING, A.M., M.D., Harv., President of the Massachusetts Medical Society, Consulting Physician and Surgeon to the Boston City Hospital, etc. Boston: David C[illegible] & Son. 1875.

ON REFLEX IRRITATIONS THROUGHOUT THE GENITO-URINARY TRACT, resulting from Contraction of the Urethra at or near the Meatus Urinarius, Congenital or acquired. By FESSENDEN N. OTIS, M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York. Read before the New York Academy of Medicine, Feb. 19, 1874. New York, McDivitt, Campbell & Co. 1875.

TINNITUS AURIUM, or Noises in the Ears. By LAURENCE TURNBULL, M.D., Physician to the Department of Diseases of the Eye and Ear, Howard Hospital, Philadelphia. Re-printed from the Philadelphia "Medical Times." Philadelphia: J. B. Lippincott & Co. 1874.

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RUPTURE OF THE PERINEUM: With a Description of a New Operation. By D. WARREN BRICKELL, M.D., Professor of Obstetrics and Diseases of Women in the Charity Hospital Medical College of New Orleans. With a wood-cut.

CHOLERA AND PLANETARY EPIDEMICS. Cholera Waves or Periods—The Rise and Fall of the Scourge. Epidemics and other Pestilences. Cattle Plagues and other Diseases. Periodical Maladies of Slow Fevers and Agues. Sun-Strokes, etc. Crop Blighting Years. Unseasonable Hot and Cold Weather. By RICHARD MANSILL. Rock Island, Illinois. 1874.

ICHTHYOSIS OF THE TONGUE AND VULVA. By ROBERT F. WEIR, M.D., Surgeon to Roosevelt Hospital, etc. Re-printed from the "New York Medical Journal," March, 1875. New York: D. Appleton & Co. 1875.

PHOSPHORUS: Its Claims as a Therapeutic Agent. By WM MASON TURNER, B. Ph., M.D. Philadelphia, 1875.

ON SPASMODIC URETHRAL STRICTURE. By F. N. OTIS, M.D., Clinical Professor of Genito-Urinary Diseases at the College of Physicians and Surgeons, New York. Re-printed from the "Archives of Dermatology." New York: G. P. Putnam's Sons. 1875.

NOSE, THROAT, AND EAR: A Description of New Instruments for making Examinations and Applications to the Cavities of the Nose, Throat, and Ear, and some Remarks about the Local and General Treatment of the Affections in which they are Applicable. Illustrated by thirteen Engravings. Third Edition, Revised. By THOMAS F. RUMBOLD, M.D. St. Louis: A. M. Leslie & Co. 1875.

CLIMATOLOGY OF FLORIDA: An Address, delivered before the Medical Association of the State of Florida, at their Annual Meeting, held in the City of Jacksonville, on the 17th and 18th of February, 1875. By A. S. BALDWIN, M.D., President. Charleston, S. C.: Walker, Evans & Cogswell. 1875.

ANNUAL CIRCULAR of the Medical Department of the University of Louisiana, Session 1875–76, and Catalogue of the Graduating Class, of Session 1874–5.

ST. LOUIS MEDICAL COLLEGE.—Thirty-Fourth Annual Announcement of the St. Louis Medical College, Winter Session, 1875–76, and Catalogue for 1874–75.

SCHOOL OF MINES.—Catalogue of the Officers and Students of the School of Mines of Columbia College, New York, for the year 1874–75.

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NASHVILLE

JOURNAL OF MEDICINE AND SURGERY.

SECOND SERIES.

VOL. 16. NASHVILLE, AUGUST, 1875. NO. 2.

Original Communications.

GUN-SHOT WOUNDS.

BY F. K. BAILEY, M. D., KNOXVILLE, TENNESSEE.

APRIL 20, 1875.—Called at 2.30 p. m. to see Robert Fain, a colored man, about 22 years of age, who had been shot by another negro. Found a bullet-wound in the left elbow, near the outer condyle of the humerus. No point of exit, and the missile either fell out, or is embedded somewhere in the limb. Did not explore, for the reason that still another wound had been inflicted. A bullet had entered about five inches below the lower end of the left scapula, and was found under the skin about two inches below, and one and a half inches exter-

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nally to the left nipple. Could not, by careful probing, ascertain that the chest-walls had been penetrated; and the conclusion was that the bullet glanced upon a rib, and passed under the integuments to the point mentioned. The man complained of severe pain in the chest, and also in the whole abdominal region.

Administered half a grain of sul. morph., hypodermically, and in a short time gave *m* x. tr. opii, in whisky and water.

Pulse slow and feeble during the first hour, but afterwards became more full, and beat 72 to the minute. Did not remove the bullet, but applied adhesive plaster to both wounds, and left him for the night.

April 21, 8 a. m.—Rested some, but suffered severely. Vomited during the night. Pulse about 100, but small; tongue very white; no swelling in the elbow, and but little soreness; considerable fullness about the point where the ball lies.

Made an incision about an inch in length, and removed the missile, being a conical bullet, about a quarter of an inch in diameter. It was bruised a little on one side, probably from its contact with a rib. Directed cool compresses upon the wounds, and a dose of salts to be taken, followed with tr. opii.

2.30 p. m.—Found him sleeping, with pulse 108, but small and soft. Bowels moved twice. Crepitus along the course of the ball, and above and below. Left pulv. Doveri, to be given p. r. n.

April 22, 8 a. m.—Pulse 120, and very small; pain in the abdominal region, as well as in the chest; respiration rapid, and some dyspnœa; thirsty, but drinks only a small quantity at a time; slept but little during the night; bowels not open; no cough or expectoration. To take castor oil at once.

2.30 p. m.—Called with Dr. Boynton, who was asked to see him, and who was also present during my first examination of the man. Pulse 132, and very small; there had been one discharge from the bowels since morning, and he threw off from the throat a large coagulum of black blood; hiccough, which has been occasional from the first, is becoming very distressing; respiration labored, and 52 to the minute; no respiratory mur-

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mur in the left side of the chest, and the crepitus under the integuments extending; emphysema becoming general, making it evident that the lung was penetrated.

Gave calomel, gr. ij., and Dover powder, gr. v., every three hours.

7 p. m.—Failing in strength; pulse 120, and hardly perceptible. To have toddy and soup.

April 23, 9 a. m.—This man died at 5 a. m.

Post-Mortem.—Made an incision at the point of entrance, and found that the ball had entered between the 11th and 12th ribs. Passed a probe the whole length into the track of the bullet, from which very nearly two quarts of very dark and offensive blood escaped. Made no further examination.

An uncommon feature in the above case is that no blood was expectorated, except the coagulum mentioned. In gunshot wounds which penetrate the lungs, there is generally raising of blood by coughing. This sign not presenting, the first conclusion was that no penetration had occurred. Emphysema did not occur to any extent till after the removal of the bullet. The hiccough was an indication of injury to the diaphragm.

GUN-SHOT WOUND OF LEFT SHOULDER.—OPERATION.

December 1, 1873.—R. A——, a very athletic young man, sanguine temperament, with strong nervous organization, while out in the woods hunting, dismounted from his horse, and placed his gun by his side so that the muzzle came directly against the left shoulder, just above the anterior boundary of the axilla. By some means, the gun discharged its contents (shot and wadding), upwards and a little backwards, entering as indicated by the position of the mouth of the piece, and making an exit just in front of the neck of the scapula, and in appearance about the top of the shoulder. Mr. A. states that his whole arm was forcibly thrown upwards by the discharge, but he did not fall. He at once started on foot to the nearest house, half a mile distant, whence he was taken home, a mile and a half further.

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Drs. Boyd and Boynton, of this city, visited him immediately, and found that the joint was comminuted more or less by the charge, and, after carefully dressing the wound, giving general directions for his care during the night, left him, with the determination to return next day and operate in the manner thought best.

On the morning of the 2nd, I was invited by Dr. Boyd to accompany him, with Drs. Boynton and Deaderick. On our arrival it was decided to operate at once. Dr. Boyd asked me to administer chloroform, and I did so, with happy effects; no vomiting, and but little struggling after the first stage of excitement had subsided.

Dr. Boyd passed a grooved director into the point of entrance, and, with a scalpel, split the integuments to the point of exit. On the parts being laid open, it was found that the head of the humerus was completely shattered, and the shaft fractured half an inch or more from the surgical neck. The tissues were blackened by powder and coagulated blood. The head of the humerus was removed, having been broken about the middle, and one-half of it considerably comminuted. The long head of the triceps was uninjured, and it was held aside while the bone was removed. About an inch of the humerus was removed with a chain-saw. No arteries were divided in the resection, and but little venous blood escaped. The edges of the wound were secured by numerous sutures, and the sufferer was removed from the table to his couch.

He recovered at once from the anæsthetic, and appeared very quiet. His pulse, which, before the chloroform was given, was rather small, and 100, had increased in volume and strength. Some whisky toddy was given him, and the family directed to keep him quiet.

I should have stated above that the bowels had moved during the night and morning, from salts taken soon after the accident, and that he ate no breakfast, except some simple liquid food. This fact may account for the absence of vomiting from chloroform.

Dec. 9.—Visited patient with Dr. Boyd. Found pulse 96,

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rather small, soft, and somewhat quick; tongue slightly coated, moist, and a palish red; countenance natural. On removing the dressings, it was found that the edges of the flaps had united in the middle, with no inflammatory blush at all in the adjoining skin. The two openings show inclination to throw out granulations. Free discharge of pus from the wound on pressure upon the surface; somewhat discolored, and small black sloughs accompanying.

Dr. Boyd has been using carbolic acid quite freely, and about ʒj. to the ounce of water or olive oil, injected from a syringe into the lower orifice, or point of entrance.

Bowels open from enemata, and urine is very free and copious. Some appetite, and takes soup, eggs, milk and toast. Also gr. ij. sul. quinine every six hours, with ♏xx. mur. tr. ferri, and ℈j. brom. potassi in ʒj. tr. valerian; ʒss. whisky with each dose.

On the whole, appearances very promising.

January 15, 1874.—The injured parts have nearly healed. At one time there was swelling of the left lower extremity, with many appearances analogous to phlegmasia alba dolens. This condition soon subsided, without any serious consequences.

July, 1875.—This man has long since recovered his health, and can use the affected arm a little. Abduction can but partially be accomplished, as the healing process caused contraction of the integuments about the joint.

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FOREIGN BODY IN THE EAR.*

BY MARTIN F. COOMES, M. D.,

Assistant to the Chair of Ophthalmology and Otology in the Hospital College of Medicine, Louisville.

FOREIGN bodies in the ear very soon set up so much irritation as to become painful, and their presence may generally be suspected. Injuries to the tympanic membrane are likely to give rise to very severe symptoms. It is a matter of every day observation that the force of a stream of water from an ordinary syringe produces dizziness, and often fainting. But I am sure it is rare that a person endures the forcible passage of a rough blunt foreign body through the drum membrane without pain.

Division of the tensor tympani muscle is generally done under anæsthesia; otherwise, the pain is such as to cause syncope in many instances. As going to show the utter indifference of some persons to perforating wounds of the tympanum, a case now under my observation is simply marvelous.

On the 9th of May, 1875, I was called to see a little girl, eight years old, an inmate of St. Vincent's Orphan Asylum. Arriving at the house, I was informed that the child had been subject to almost continuous bleeding from the right ear, since the 2nd instant—the discharge being of temporary duration, though occurring at short and irregular intervals. There had been no complaint by the patient up to this time.

I attempted to cleanse the ear of some bloody pus, with a probe and cotton wool, when I was a little astonished to see the external auditory canal rapidly filled with arterial blood.

* Read before the Louisville Academy of Medicine May 21st, 1875, and published by request.

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I desisted in the use of the probe and cotton wool, and syringed the canal with cold water. The hemorrhage continued to such an extent as to prevent my making a satisfactory examination, until I had dropped a solution of alum, thirty grains to the ounce of water, into the ear. I then introduced a speculum, and, with strong illumination, discovered a foreign body in the external auditory canal, which had much the appearance of the tooth of an ordinary coarse horn comb; but which proved to be a splinter of poplar wood, seven-eighths of an inch in length, and about one-seventh of an inch in width. The outer end of the splinter was fully three-fourths of an inch from the external meatus, and placed close back against the lower portion of the posterior wall of the canal; the inner end had pierced the membrana tympani in its upper and posterior portion. Nearly one-third the length of the splinter was in the drum cavity.

I elevated the outer end with a probe, and removed the splinter with forceps. Its dislodgment required considerable force—more than I thought such a delicate piece of wood could stand without breaking. There was considerable hemorrhage immediately after the removal, which was checked by the alum solution. After the hemorrhage had entirely ceased, I cleansed the ear thoroughly, and applied a ten-grain solution of carbolic acid.

On the morning of the tenth, the wound had the appearance of being perfectly healthy. I cleansed it, and applied a solution of carbolic and tannic acid, each thirty grains, to the ounce of water.

Under this plan of treatment the wound has healed rapidly, and is almost closed at this writing (May 18th), nine days after removal of foreign body.

[Accompanying the communication were three drawings, showing, respectively, the appearance of the wound in the membrana tympani immediately after the removal of the foreign body, the same at the expiration of nine days, and splinter, full size.]

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CAUSE OF VARICOCELE.

BY RUFUS M. CORLEW, M.D., CEDAR HILL, ROBERTSON COUNTY, TENNESSEE.

In the writing of this paper for publication in the *Nashville Journal of Medicine and Surgery*, it will be remembered that I do not attempt the revelation of facts, hitherto undiscovered, as the result of profound study and research, but as the direct result of observation and experience in the treatment of the above-named disease.

While the true pathological condition, existing in all cases of varicocele, has been clearly understood, and while it is forcibly and physically suggestive of its own diagnosis, the true cause of the disease has ever remained obscure (so far as I have been able to learn), notwithstanding the most scientific and skillful research.

The existence of varicocele has hitherto been attributed to a variety of causes—such as excessive venery, constipation, laborious exercise in the erect posture, and finally to an anatomical defect, particularly on the left side. It is argued by high authority that, in consequence of this peculiar anatomical arrangement of the veins on the left side, the circulation is imperfect in the part, and that, as a farther consequence, there is a strong predisposition to the disease in question. Nélaton, however, remarks, that the impediment to the circulation, on the left side, is more fancied than real, since the vein from the testicle curves so as to throw its contents into the renal vein in a direction nearly parallel to the course of the blood in this latter vessel.

Be this as it may, we confess that we know nothing about it. But in the face of all we have ever heard, read, or seen,

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with reference to the disease, we do not hesitate to assert our belief that varicocele is the *direct* result of *rheumatism* of the vessels themselves, at least in the large majority of cases.

So thoroughly are we convinced that varicocele is the direct result of rheumatism of the cord, we desire to call the attention of both physicians and surgeons to the matter, hoping that some benefit, at least, may accrue to those suffering from this very frequent disease.

By reference to our note-book, we find the following history of a case, which we think amply sufficient to justify the above conclusion.

Two years ago we were consulted by a gentleman, married, aged 30 years, fair skin, dark eyes and hair, and of sanguine temperament. Upon interrogation and examination we found that he had, for years, enjoyed perfect health; that his bowels had been regular, appetite good, slept well, etc., and, indeed, at the time of examination, we found him in perfect *embonpoint*, with the exception of slight sub-acute rheumatism in the lumbar region, and some uneasiness about the left testicle and cord. We made no prescription at the time, but told him to call again, which he did in course of ten days, still suffering from rheumatism in lumbar and sacral regions, and also in his left hip-joint.

Upon further examination, we also found him suffering from incipient varicocele. We suspended the testicles at once, and told him to call again. He called in a few days, with his trouble increased to such an extent that we ordered strong counter irritation, iod. potass., and the usual remedies in the treatment of rheumatism. Under this line of treatment improvement speedily came.

We heard no complaint for some weeks, but in the course of a month he called again, suffering from rheumatism of intercostal muscles on left side. We prescribed again, as before, with same result with reference to relief in that locality, but produced a metastasis from the intercostal muscles to the lumbar and sacral regions, when he again experienced trouble in testicle and cord, which proves, conclusively to our mind, that

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cord was attacked by rheumatism in common with other contiguous and surrounding parts.

Thus my patient has, for two years, suffered from attacks of rheumatism, more or less severe, at irregular intervals, in different portions of the body.

Whenever he is attacked in hip-joints, lumbar and sacral regions, by rheumatism, he suffers also from the varicocele; while he may be attacked in other portions of the body, and suffer greatly, without any inconvenience from the enlarged veins at all.

It may also be proper to remark, that while he is suffering from rheumatism in his loins, the cord is swollen and tender.

When the system is free from rheumatism, and more particularly that portion in the region of the hips, he has no trouble from the varicocele, but, on the contrary, the cord is soft, lax, and a good deal smaller.

I verily believe that the physician or surgeon who treats varicocele successfully has rheumatism to cure.

I shall be pleased to hear something from the profession on the subject. *More anon.*

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Selected Articles.

"ONE OF THE LOST ARTS."

BLOOD-LETTING CONSIDERED AS A THERAPEUTIC AGENT.

BY SAMUEL D. GROSS, M. D.

Read before the American Medical Association, May 6, 1875.

Gentlemen of the Convention—I desire to engage the attention of the Association with a view of offering some remarks upon one of the lost arts of the profession. I allude to blood-letting, considered as a therapeutic agent. If, in what I am about to say, it shall be my good fortune to make a few converts to the opinions which I have been led to form upon the subject, and, above all, induce this assembly of eminent men to revise and extend their knowledge of it, I shall not only be greatly rejoiced, but feel that the time devoted to its preparation has not been misspent.

How much this agent has been neglected—nay, positively ignored,—by the profession, during the last thirty years, is too well known to require any comment; how much it was formerly abused is equally a matter of record, if not a lasting shame. Regarded for a long time as the great, if not indispensable, element in the treatment of inflammation, it has gradually sunk so low in the estimation of practitioners, that

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few, if any, have the courage even to hint at its necessity, much less to employ it, lest they should alarm their patients, and thus bring upon themselves public odium. If, now and then, one is bold enough to bleed, he is sure to be taken to task about it, if he is not actually denounced as a murderer.

When a remedy, once so popular, and regarded, for nearly two thousand years, by the most eminent and enlightened men, as so essential to success in the treatment of disease, has fallen into utter desuetude, it behooves us, especially the older members of the profession, to pause, and to inquire seriously whether there is not something wrong in all this depreciation; whether we have not fallen into the opposite error, and condemned a remedy which, if judiciously employed, is capable of doing vast good. Extremes are always dangerous, and certainly nowhere more so than in the practice of medicine. We may well ask ourselves the question, "Watchman, what of the night?" for every one must perceive that it has a broad and profound meaning here. If the modern practice be right, then the old practice must have been wrong, deadly wrong; and in so far, at least, we must be wiser than our fathers, and entitled to the gratitude of mankind for our superior knowledge and skill.

As a young man I well remember that every physician was accustomed to carry a lancet in his pocket, ready for use in any emergency, however unexpected. It was an inseparable companion. In every large city of the Union were certain men who followed bleeding, leeching, and cupping, as a specialty. How the matter now stands, everybody knows. The lancet is an obsolete instrument; the office of the bleeder has departed; venesection has long been unfashionable, and few of the present generation of medical men would, if called upon, be able to open a vein in a scientific and creditable manner.

Blood-letting, as I have already stated, is emphatically one of the lost arts.

How this extraordinary change in sentiment and practice was brought about—by what influence, agency, authority, philosophy, logic, or mode of reasoning,—is a matter worthy of

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brief inquiry. The causes, so far as they are patent to my mind, are mainly four:

First. The influence or tyranny of authority, soon passing into more or less extensive fashion.

Second. The indiscriminate employment of the lancet in the days of what has been termed, not inappropriately, the Sangrado practice.

Third. A more accurate knowledge of the nature and seat of disease.

Lastly. The use of certain remedies unknown a third of a century ago, but now of general, if not universal, resort, in the treatment of inflammatory affections.

1. The influence of authority annually slays millions of human beings. Its pernicious effects upon human life, in its individual and collective relations, are felt in every direction; in the construction of our dwellings, in our habits and occupations, in our dress, in our social entertainments, in our amusements, in our food and drink, and in a thousand other ways. Of its malign influence in our profession, examples daily fall under our observation, as the result of pernicious doctrines and practices. Superstition and fanaticism have kept the world in a state of intellectual bondage from the earliest records of society down to the present moment. The spiritism of the present day has its counterpart in the witchcraft of three centuries ago, fortunately without the hangman's halter. Every age has its peculiar absurdities, characteristic of the minds of some of its people. Mesmerism deluded thousands of persons. The metallic tractors of Perkins enjoyed, for a time, a world-wide notoriety. Homœapathy is still at work in deluding the world. Clairvoyance has many devout adherents. Berkeley, in the middle of the last century, effected many wonderful cures with the aid of his tar-water. For upwards of one hundred years the lancet enjoyed unlimited sway. Everybody was bled. Surgeons, during the last dozen years, have had carbolic acid on the brain as a dressing in wounds and other injuries. Broussais, Cookeism, and the blue-pill of

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Abernethy, each had a reign of at least a quarter of a century. For an equally long period the medical mind of Italy was agitated by the tartar-emetic treatment of Rason and his followers. Thompsonianism, or the lobelia-and-cayenne-pepper-treatment, is not yet entirely extinct on this continent, although its days were numbered long ago. For nearly a third of a century the doctrine of a change of type in disease has tyranized over the minds of medical men, and exerted a controlling influence upon their practice.

Of all these delusions, the latter, often called Toddism, after Dr. Todd, its author, has exercised the most pervasive and baneful effects upon civilized society. Ensconsing itself behind a false position, it has literally enslaved the medical world, entrapping alike the wise and the foolish, and sweeping over human life with a force equal to that of the fiercest and most destructive hurricane. Unlike the doctrine of sthenic and asthenic diseases of Dr. John Brown, who, in the latter part of the last century, enjoyed such a wide celebrity as a medical reformer, it assumes that all maladies are of a low type, imperatively demanding the use of stimulants for their successful management. It countenances no half-way measures. The patient must be upheld by stimulants, or he must die. Now and then, perhaps, a few leeches may be tolerated, but only in very exceptional cases, where there is not too much depression of the vital powers. Who and what Dr. Todd, the author of this system of medicine, was, it would be needless to inquire. Everybody knows that he was one of the ablest writers and clinical teachers which this century has produced; but that he was a profound thinker, I doubt; and it is well to bear in mind that the class of patients at King's College Hospital, London, of which he had charge, were persons in the lower walks of life, broken down by overwork, privation, and various forms of intemperance, and therefore unable to bear depletory remedies. Such patients as Dr. Todd had are to be found in the wards of every eleemosynary institution in Europe and in this country. It was from a study of this class of cases that this famous man, in an evil hour, deduced the ab-

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surd doctrine of a change of type in disease. I say absurd, for if there ever was anything absurd, this doctrine most assuredly deserves that name. Who that has any knowledge of the human constitution, as it is daily met with in our intercourse with our fellow citizens, in the various pursuits of life, will lend credence to such an idea?—I had almost said to such a slander. I assert, without the fear of successful contradiction, that man's power of endurance, in health and disease, is not one particle less than it was fifty years ago, when depletory measures, in every form, were the order of the day—when, in fact, it would have been deemed derogatory to a physician's character to let a patient die without the aid of such remedies. The exploits performed during our late terrible war alone are sufficient to settle this question. Never, since man battled with man for national supremacy, were there so many rapid, laborious, and brilliant marches, executed in so short a time, as there were on both sides of the line. The exploits of the soldiers of Alexander, Hannibal, Cæsar, and Bonaparte, fade into comparative insignificance by the side of those of some of our generals. Our laborers, farmers, miners, hewers of wood, carriers of water, mechanics, artisans, and professional men, evince no evidence of decline in muscular power or mental endurance. Our sailors are as hardy a race of men as they were in the days of Sir Francis Drake or Captain Cook.

If we look at the habits and modes of life of the people at the present day, it will be found, if I do not greatly err, that they do not differ, in any essential manner, from those of one-third of a century ago. The different classes of men and women, in city and in country, live very much as they did in my boyhood, using the same kind of food and drink, pursuing similar occupations and amusements, and exercising as much control over their appetites and passions generally as their fathers and mothers. If there are any differences, in any of these particulars, they are certainly not well marked, or so radical in their character as to diminish, in any material degree, the power of endurance of our people, in health and disease. On the other hand, owing to the more extensive cultivation of

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our soil, the destruction of our forests, the draining of our marshes, and the greater attention paid to the study of hygiene, our people, especially those in the rural districts, are much more exempt from the diseases caused by the noxious exhalations from the earth's surface, so prevalent in newly-settled countries, and so pernicious in their effects upon the constitution, than they were in the early days of my white and bald-headed contemporaries.

Do not men, during accidents and surgical operations, and women, during parturition, often lose enormous quantities of blood, and yet frequently make excellent recoveries? In epistaxis, hemoptysis, and hematemesis, this fluid is often largely poured out, and yet it is seldom that we hear of a person dying from the effects of such loss.

In the face of such facts as these, and a hundred others that might be adduced, if time permitted, the doctrine of a change of type in disease must fall to the ground, as utterly untenable.

The influence of fashion is not limited to our profession. We all recollect how the crinoline of the French Empress, invented to conceal a condition of which most ladies are so proud, enslaved the female mind, until every woman, married and single, considered it as an indispensable article of dress. A sofa, however spacious, was hardly long enough for a woman, thus arrayed, to sit upon. How the fashion has changed within the last six or eight years is familiar to everybody. Now the dress is so narrow as to show the outline of the person, and to compel the greatest care in progressing lest the fair wearer should trip and tear her garments. Even diseases occasionally become fashionable. When it became known that Louis XIV. was laboring under anal fistule, the disgusting malady became at once the fashionable ailment of his debauched court. The use of enemata was cultivated as one of the fine arts in France in the time of Moliere, who lashed the faculty without mercy for its follies and extravagances.

2. The indiscriminate employment of the lancet in former days did much to bring blood-letting into discredit, not only

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with the better thinking class of physicians, but the public at large. "We cure the sick," says Gui Patin, a Professor in the Royal College of France, "when over eighty years old, by blood-letting; and also infants of not more than two or three months, with as much success and as little inconvenience."

Rush, the great champion of this operation on this side of the Atlantic, bled indiscriminately and remorselessly, at all periods of life—the young, the middle-aged, and the old; in all kinds of diseases—in the eruptive fevers, in fever and ague, in puerperal fever, in inflammations, in injuries, in hemorrhages, and even in anemia; often taking immense quantities of blood, and repeating the operation six, eight, or even a dozen times, in the same patient. In short, he and his followers used to bleed in every possible disorder, until, in many cases, no more blood would flow, because there was none left. That such practice would at length work out its own destruction is what might reasonably have been expected. It rang its own knell.

3. That we are much better acquainted with the nature and treatment of disease than our fathers were is a fact so universally accepted as to require no argument in its support. Our progress in this respect, during the last forty years, has simply been marvellous; and to nothing are we so much indebted for these improvements as to the study of pathological anatomy and histology, and the astounding developments of chemical science.

4. That the treatment of disease has been greatly simplified within the period above specified is familiar to every member of the profession. Homœopathy, by the absurdities of its doctrines and primitive practices, long ago demonstrated to the world that most of its cures are effected spontaneously, through Nature's restorative powers alone, while the patient's mind is medicated with the decillionth part of a drop or a grain of medicine; and in comparatively recent years, two eminent medical philosophers, Professor Bigelow, of Boston, and Sir John Forbes, of London, showed us, by a series of

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admirably conducted observations, that certain diseases, as small-pox, scarlatina, measles, typhus and typhoid fevers, are self-limited in character, and therefore not to be materially, if at all, abridged in their course by any plan or means of medication whatever.

A third of a century ago, the only so-called depressants, aside from the use of the lancet, were tartar-emetic, calomel, and digitalis, the latter of doubtful efficacy in any case, and the first often exhibited without due discrimination. Of aconite and veratrum viride, now so universally employed as antiphlogistic agents, we were totally ignorant. These two medicines, as I shall endeavor to prove by and by, although frequently of immense service in the treatment of inflammatory affections, are far, far inferior to blood-letting.

Believing that these are the principal, if not the only, reasons, which have led to the abandonment of blood-letting as a therapeutic agent, I propose now to speak of the operation itself, and to point out, first, the classes of diseases to which it is more especially applicable; secondly, the period at which it should be performed to yield the greatest amount of good; and lastly, its mode of action.

Blood may be abstracted in different ways—as, first, by venesection; secondly, by leeches and cups; thirdly, by incision, scarification, or puncture; and fourthly, by arteriotomy. The latter operation is so difficult of performance, that few practitioners are willing to attempt it. There are cases, as in violent inflammation of the brain, eye, and ear, in which it is supposed to exercise a peculiarly beneficial influence; but, generally speaking, it is quite certain that venesection, if properly executed, answers every purpose, even in the affections here specified. Similar remarks are applicable to bleeding at the jugular vein, also usually a difficult, and sometimes even a dangerous operation.

The diseases to which blood-letting is more particularly applicable are the different inflammations—acute and chronic; general bleeding being best adapted to the former, and local to the latter. Hippocrates and his immediate followers bled

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largely in pneumonia and pleurisy; and Sydenham, Rush, Louis, Drake, and many others, often took immense quantities of blood in the treatment of these maladies. In acute inflammation of the eye, in robust subjects, bleeding is often indispensably necessary to save the affected organ. Who would hesitate to draw blood largely, under similar circumstances, in acute inflammation of the brain and its envelope, in acute pericarditis or endocarditis, in hepatitis, splenitis, gastritis, enteritis, peritonitis, cystitis, metritis, or orchitis? Stricture of the urethra would be much less frequent if young men, laboring under severe gonorrhœa, were freely bled at the beginning of the attack. In traumatic affections of the joints, unattended with loss of blood or severe shock, the abstraction of blood would often prevent anchylosis, so common under the present system of treatment. The spasm which is so often present in recent fractures, especially in those of the leg and thigh, is more readily controlled by venesection, followed by a hypodermic injection of morphia, than by any other agent I have ever tried.

In chronic inflammation blood-letting is often an indispensable remedy. Even the most ultra advocate of the stimulant method of treatment will hesitate to employ it when destructive action is gradually, but surely, undermining structure and function. The abstraction of five, eight, or even ten ounces of blood, in chronic pneumonia and pleurisy, especially when associated with severe pain and obstructed respiration, often acts like a charm, relieving suffering and promoting the beneficial action of other measures. In chronic ophthalmia, a few leeches applied to the fore part of the temple, on a line with the commissure of the lids, frequently produce the happiest result.

But I will not consume your time by an enumeration of the different cases of chronic inflammation in which blood-letting might be advantageous. What I have said respecting the lungs, pleura, and eye, is equally applicable to other structures, and needs no further elucidation here.

It requires no labored argument to show that general bleed-

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ing can be successfully practised only at the beginning of an acute disease, or during its earlier and gravescent stages. Performed at a later period, when the morbid action is fully established, and the affected tissues are inundated with inflammatory deposits, it cannot fail to do harm, by robbing the system of the strength so much needed to carry on its vital processes. A copious bleeding at the outset of a violent inflammatory disease is gold; at its height, lead; or, to express myself more clearly, life in the one case, death in the other.

Secondly—To draw blood to the greatest possible advantage, the quantity should be measured, not by ounces, but by the impression it makes upon the system, as denoted by the pallor of the countenance, the reduction of the heart's action, the softened state of the pulse and skin, the abatement of pain and of other symptoms—as headache, thirst, and restlessness, so universally present in all severe inflammatory attacks. To insure this result in the most speedy and decided manner, the blood should be drawn from a large orifice in a large vein, at the rate of two and a half to three ounces in the minute, while the patient is in the erect or semi-erect posture. If the body be recumbent during the operation, a much larger quantity of blood will be required to be drawn to produce the desired effect than when the reverse is the case. While, therefore, the bleeding should be spoliative, care should be taken not to waste the fluid unnecessarily.

To prevent undue reaction after the operation, the bleeding should not be carried to complete syncope, but merely to an approach to this condition, the effect of the operation being carefully watched by a reference to the countenance and the pulse, lest it should exceed the proper limits and thus do harm instead of good. Violent reaction, however, in any case, after the abstraction of blood, may generally be effectually prevented by a full dose of some diaphoretic anodyne, as ten grains of Dover's powder, with one-fourth of a grain of morphia, given immediately after the operation.

Respecting the repetition of the operation, every case must, so to speak, make its own rules. If, after a very copious bleed-

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ing, the symptoms rapidly reappear in all, or nearly all, their former intensity, the operation should at once be repeated, either by re-opening the original orifice or by selecting another vein. In urgent cases, as in violent pneumonia, pleurisy, peritonitis, cerebritis, or endocarditis, the operation may often be repeated several times in rapid succession. Under such circumstances the practitioner must, like a wary general, make forced marches, and follow up his successes, not waiting until the enemy has re-intrenched himself behind his works, but strike heavy blows while he has the opportunity.

But I shall be told that such heroic treatment must inevitably induce serious debility. I grant it will; but, in turn, I will ask, will the disease, if neglected or permitted to progress, not also cause debility—debility, perhaps, of the very worst kind—debility from over-action of the heart, imperfect supply of nerve-fluid, deranged circulation, impaired function of vital organs, and, above all, from disordered structure from inflammatory deposits? The enlightened practitioner bleeds to save tissue, and to prevent the morbid action from running riot. He repairs strength, when the time for it arrives, by making blood with nutritious food and drink, and thus speedily sets the machinery of life again in motion. The timid, hesitating practitioner, the opponent of bleeding, on the contrary, although he may employ the same restoratives, uses them inopportunely, and thus allows the debility caused by his treatment to linger for an indefinite time, provided the patient is so fortunate as to survive the first onslaught of his disease.

Before I proceed to speak of local bleeding, let me briefly inquire into the mode of action of venesection, or, in other words, how the removal of blood from the system affords relief in inflammatory affections? This question can be easily answered. In the first place, the abstraction acts spoliatively, diminishing, as the name implies, the quantity of blood, both in the part and system. Secondly, it weakens the power of the heart, and thereby prevents it from sending the blood with the same force and velocity into the suffering structures. Thirdly, it unlocks all the emunctories, and thus promotes se-

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cretion. Fourthly, it disgorges the vessels at the seat of the disease, restores the circulation, and places the absorbent vessels in a better condition for the removal of effused matter. And last, but not least, it favors the action of other remedies, as purgatives, diaphoretics, diuretics, and anodynes.

But it will be said that all these effects may and can readily be induced by the agency of other remedies, as aconite, veratrum viride, digitalis, mercury, and tartar-emetic, and that, too, at much less cost to the system. That these articles are powerful depressants, lowering the heart's action and promoting secretion, no one at all acquainted with their virtues will question; but I deny that they exercise the same beneficial impression upon the vessels at the seat of the inflammation. When blood is drawn freely from a large vein at the bend of the arm, from a large orifice, to an approach to syncope, the vessels at the seat of the morbid action are unloaded, often to such an extent that the affected structures do not exhibit any marked difference in color from those in their immediate vicinity. Thus, for example, in violent conjunctivitis, the mucous membrane, the seat of the disease, always, under such circumstances, presents a perfectly blanched appearance, however red and engorged it may have been the moment before. Now, what occurs in the eye, in such a case, may reasonably be supposed to take place in any other part of the body when a patient is bled to a similar extent. In pleurisy, one of the immediate effects of the copious abstraction of blood is a mitigation of the torturing pain which forms so prominent a symptom in this disease, due, evidently, to the diminished calibre of the vessels in the pleura, previously in a state of complete repletion. Has any one ever witnessed such an effect from the exhibition of aconite, digitalis, veratrum viride, or tartar-emetic? Never. No matter how these articles may be administered, whether singly or variously combined, they are simply depressants, not depressants and evacuants, as the abstraction of blood from a vein or an artery; there is no blanching of tissue from their use; no unloading of distended and crippled vessels; indeed, no direct appreciable effect of any kind.

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The more recent researches in pathological histology furnish a hint, not easy to be mistaken, as to the most salient treatment of inflammation in its earlier stages. The leading indication is to restore the paralyzed capillaries to their normal tonicity, so as to prevent structural changes in their walls, and facilitate the outward passage of the white globules with which they are choked. It is now well known that in every inflamed area there is marked hyperæmic distention of the blood-vessels, which are often crowded to their utmost capacity with leucocytes, which emigrate through the vascular walls, and, in conjunction with the effused blood-liquor, constitute the most important elements in inflammatory deposits. Hence the object of treatment should be to restore the capillaries to their normal calibre through the artificial induction of contraction of their walls, an effect which can be brought about, as is daily witnessed in many of the external inflammations, by cold applications, which, as is well ascertained, produce reflex contraction of the vessels.

In inflammation of the more deeply-seated organs and tissues, however, this object can only be attained by spoliative bleeding, whereby the affected capillaries are relieved of their contents. In this way only can their tonicity be restored, the further effusion or migration of cell-elements restrained, and the absorption of existing deposits favored.

Another effect of bleeding, not to be overlooked in this discussion, is the diminution which it causes in the quantity of fibrine and white globules, so remarkably augmented in inflammatory affections. This change, of which I have witnessed many examples, was beautifully illustrated in the case of a young man, nineteen years of age, whom I attended, along with the late Dr. Charles Woodward, of Cincinnati, on account of a severe attack of pleurisy. Blood was drawn on three consecutive days, the first bleeding being performed about thirty-six hours from the commencement of the attack. The fluid, amounting to nearly a quart, was not only greatly buffed, but cupped on both sides of the crassamenium, as is shown in the specimen which is still in my possession. At the

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second operation the fluid was buffed, but not cupped; and at the third it was merely a little sizy, all pain and active inflammation having by this time disappeared. If such effects follow the use of the articles above-mentioned, I am uninformed of the fact.

In leeching and cupping, blood may be taken directly from the affected structures, or indirectly, as when they are practiced at a distance from the seat of the inflammation; in the latter case the effect, if carried to a great extent, is similar to that produced in venesection, but generally much more tardy, and, therefore, in the main, not so efficacious.

When the tissues are divided, as in incisions, scarifications, or puncture, the vessels are directly drained of their contents, an operation often followed by great, if not permanent, relief. Illustrations of the efficacy of this mode of depletion are daily witnessed in tonsilitis, in erysipelas, ulcers of the extremities, inflammation of the uterus, and in impending mortification, not to mention other affections.

I have said that general bleeding can be successfully practiced only at the beginning of an inflammatory attack—a fact which, I repeat it, is not to be lost sight of in weighing the propriety of such a procedure. Let it be borne in mind, also, that bleeding is not to be practiced indiscriminately, but judiciously, and with proper regard to the condition of the system. Our fathers grievously erred, because they bled in every stage of disease; and in all states of the system—the plethoric and the anæmic, the strong and the weak. Of course there were exceptions, but, as a rule, this was the practice; the harm, hence, as a natural consequence of the abuse, the abandonment of the treatment.

It is within the recollection of all the older members of this Association when the practice of medicine in this country and in Great Britain was limited to the lancet, calomel, digitalis, opiates, and tartar-emetic, with gruel and chicken broth as the chief diet during sickness. I well remember the time when the use of cold water was interdicted as highly improper, especially in the treatment of the so-called eruptive fevers, and

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when ventilation of a sick man's chamber was considered as fraught with danger.

Bleeding will again come into fashion; history constantly repeats itself, and knowledge runs in a circle. No sensible man can fail to read the signs of the times. But it will not be indiscriminate bleeding; it will be bleeding performed for a reason—early, and, if need be, freely,—to save tissue and promote resolution; in the robust and plethoric, in the young and middle-aged; not in the weak, the anemic, the intemperate, the broken down and the decrepit. Practitioners, during the last third of a century, have labored under a delusion and a dream, from which they are gradually emerging to a sense of their duty; and although I am not a prophet, nor the son of a prophet, I venture to predict that the day is near at hand, if indeed it has not already arrived, when this important element of treatment, so long and so shamefully neglected, will again become a recognized therapeutic agent, and will thus be instrumental in saving many lives, many an eye, many a lung, many a joint, and many a limb.

But bleeding should not be restricted to the treatment of inflammatory diseases. There are other affections in which it may often be practiced with the greatest benefit. In puerperal convulsions, attended with a plethoric condition of the system, copious venesection, promptly followed by the administration of a full anodyne, either alone, or in union with chloral and bromide of ammonium, and the application of leeches to the temples and cold to the head, is the sheet-anchor of our hopes, a positive *sine qua non* to success. An experienced and learned member of this Association, Dr. J. Fordyce Barker, recently called attention to this subject in a paper characterized by strong sense and great practical acumen, worthy of his high position as an accomplished gynæcologist. I believe, indeed, that the practice thus set down is the one now generally, if not universally, adopted, in the treatment of this dangerous disease, as it was in the time of Dewees and his more enlightened contemporaries.

In certain forms of apoplexy, the judicious employment of

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the lancet cannot be too strongly insisted upon, especially in comparatively young and vigorous subjects. Blood, in this disease, is often taken with leeches when it ought to be taken with the lancet.

In asthma, bleeding is frequently of inestimable value, in relieving engorgement and spasm of the lungs, the causes of the terrible dyspnœa so often present in the more aggravated forms of the disease. I recall to mind the case of a lady who was subject to asthma from the age of fourteen up to that of eighty-six, when she died of pneumonia, whom I repeatedly bled with the greatest advantage, in attacks of this kind, which nothing else could relieve. In another case, that of a tall slender gentleman of this city, nearly eighty years of age, in which a severe attack of asthma was complicated with great congestion and slight inflammation of the lungs, the abstraction of less than ten ounces of blood, by the lancet, led to a speedy convalescence and a complete cure. I verily believe that if this gentleman had not been bled he would have died.

In certain forms of phthisis, venesection, judiciously employed, is frequently productive of great benefit. I allude more particularly to the chronic variety of the disease, kept for years in abeyance by great care and a properly-regulated regimen.

I remember the case of the late Mr. Benjamin Drake, of Cincinnati, a brother of the great Professor, who labored, for many years, under disease of the lungs, associated with tubercular deposits, the more urgent symptoms of which were always promptly relieved by the loss of eight to sixteen ounces of blood by venesection. I have always felt satisfied that his life was materially prolonged by this treatment.

Dr. Rush was in the habit, as Sydenham had been before him, of bleeding in every case of phthisis attended with a hard pulse, or a pulse rendered weak by the laborious transmission of blood through the lungs. In one of his cases he bled eighteen times in two weeks, and in another fifteen times in six weeks, with the happiest effect. I do not cite these instances as examples for our imitation, but simply to show that

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a system, borne down by disease, may react favorably under what, to us of the present day, appears as a most heroic measure.

Forty years ago it was customary, in protracted labor, dependent upon rigidity of the uterus and the perineum, to bleed, in order to relax the parts and expedite the expulsion of the child. Dewees, in such cases, often took large quantities of blood, especially in young, robust, primiparous women, and occasionally even repeated the bleeding. I well remember that this was the general practice for a number of years after I entered the profession. Why it has fallen into desuetude it would be difficult to tell. The abstraction of blood, under such circumstances, was always followed by the exhibition of a large anodyne, under the influence of which the labor usually progressed rapidly to a favorable issue, without subjecting the poor woman to undue torture, the danger of lacerating the perineum, or the necessity of applying the forceps, the use of which is now so common among all classes of *accoucheurs*.

The plethoric condition of the system, so frequently met with in young, robust, pregnant women, is generally promptly relieved by the abstraction of twelve to fifteen ounces of blood, and certainly there is no more rational remedy in such circumstances, especially when the redundancy of blood is accompanied by dizziness, vertigo, or headache. Thirty years ago there were few women that were not bled once or twice during utero-gestation, on account of the symptoms, and I do not know that I ever heard of one that was injured by the practice.

Certain forms of hysteria and epileptic convulsions, dependent upon congestion of the nervous centres and a redundancy of blood in the system, are generally materially benefitted by venesection. The relief in the former affection is often prompt and permanent, as I can testify from personal experience.

In the convulsions of infants, blood-letting is frequently of signal service. In that form of the disease which follows upon the more severe attacks of cholera, so rife in our hot summer months, and which are manifestly due to over-excitement of

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the brain, as is shown by the excessive heat of the head, the flushed condition of the countenance, the suffused eye, the intense thirst, the incessant restlessness, the intolerance of light and noise, and the twitching of the muscles, the abstraction of two to two and a half ounces of blood from the arm, in a child from one to two years of age, not only, in many cases, promptly arrests the vomiting and other distressing symptoms, but protects the brain from more serious mischief, and thus place the system in a condition for speedy convalescence.

In what is called hay fever, a good bleeding sometimes affords immediate alleviation of all the disagreeable suffering incident to that complaint, as dyspnœa, violent sneezing, nasal catarrh, tightness in the frontal sinuses, headache, and horripilations, or chilly sensations along the course of the spine. I recollect one case which came under my observation, many years ago, in a clerical gentleman, 33 years of age, who, on being largely bled one Sunday, soon after the close of his religious services, was completely cured for that season; and, although the malady recurred during several consecutive summers afterwards, the attacks were always comparatively light.

Cases have been related of great benefit afforded by bleeding in uræmic coma, attended with unconsciousness, dilated and fixed pupils, convulsions, a highly albumenous condition of the urine, and excessive prostration of the system. The blood at first issued feebly, but gradually the stream increased in volume, the blood assumed a brighter hue, the pulse rose, the convulsions ceased, consciousness returned, and the patient finally made an excellent recovery. Several such examples will be found recorded in the London *Medical Times and Gazette* for September, 1874, by Dr. Benjamin W. Richardson, in an article on "Blood-Letting, as a Point of Scientific Practice," and are worthy of special study.

This spring twelve months ago I was requested to visit a lady, a stout, muscular person, in robust health, upwards of forty years of age, who, for several years past, had suffered much from attacks of headache, attended with dizziness, and occasionally, also, with vertigo. She had tried various reme-

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dies without benefit. I suggested bleeding, to which she at once assented, and I drew fully three half-pints of blood, with immediate and permanent relief.

Surgeons, the world over, draw blood after severe reaction in concussion of the brain, to prevent inflammation of that organ and of its membranes.

The more plethoric the patient, the greater the necessity for such interference; but the operation should, by no means, be restricted to this condition, as it is often of great value, if timeously performed, in the comparatively anemic subjects.

It was a case of concussion of the brain that gave rise to the never-to-be-forgotten conversation between John Hunter and his pupil, Dr. Physick, at the time resident physician at St. George's Hospital, London. A man laboring under concussion of the brain from a fall from a scaffold, was brought into the surgical ward in a state of utter unconsciousness. "What shall I do?" said the pupil to his master. "Shall I bleed him?" "Bleed him? Bleed him, sir? No, sir! You would kill him outright. Wait, sir, until he reacts, and then bleed him—bleed him to death, sir."—*Dr. Charles D. Meigs, in Pennsylvania Hospital Reports*, vol. i. p. 27, 1868.

In compression of the brain from fracture, with depression of bone, and compression from extravasation of blood, the abstraction of blood by the lancet and leeches is frequently resorted to for the purpose of securing cerebral accommodation, and the practice, as is well known, is often followed by the most gratifying results.

We all have, at some period or other of our lives, experienced the torturing, racking pains in the back and limbs, so common to bilious, remittent, and intermittent fevers, as if the body were about to be broken in two, causing us to turn and toss about almost incessantly in search of ease, the head generally at the same time terribly distressed, the skin hot and dry, the thirst intense, and the heart in wild tumultuous motion. Who that has ever been freely bled in such a condition of the system does not remember, with grateful feelings, the prompt alleviation afforded by the operation? The applica-

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tion of a dozen wet cups to the aching back has often speedily transported the poor patient, as it were, from torment into elysium.

In gout and rheumatism the abstraction of blood is frequently of immense benefit, if not as a direct curative agent, as a means of relieving pain and paving the way for the more successful action of other remedies.

The passage of renal and biliary calculi is often greatly expedited, and the suffering caused by it much alleviated, by a copious bleeding, especially in stout, plethoric subjects.

But I must stop, for my remarks have already been extended far beyond my original design, which was simply to point out a few of the more prominent diseases in which, in my humble opinion, this much-neglected, but most valuable, therapeutic agent, may be advantageously employed.

The fate of blood-letting, Mr. Chairman, teaches us an important lesson, not at all calculated to elevate our pride as men intrusted with the preservation of the health and lives of our fellow-beings. It shows what little faith there is to be placed in human judgment, and how sadly we are influenced by authority and fashion in a matter pertaining to the dearest interests of society. If I wished to be satirical, I should say that there are in our profession, as there are, indeed, in every other, two distinct classes of men—the thinking and the non-thinking. The former, whose number is exceedingly limited, accept every novelty, or great and sudden change, with suspicion, wisely concluding that the one ought not to be adopted until it has been fairly tested by well-conducted observation and experiment, and that the other should not be rejected without sufficient cause. The non-thinking man, on the contrary, eagerly lays hold of every novelty, and seldom stops to seek a reason for his new faith. He adopts it simply because his neighbor adopts it. Especially is this the case when the novelty, whatever it may be, has a distinguished parentage, as when it has received the sanction of a great name, or, perchance, if it had a trans-Atlantic origin. Jones, Robinson, or

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Brown, in Europe, is always a great man—far greater than his namesake on this side of the water.

The non-thinking man confounds progress with improvement. He does not weigh the *pros* and *cons* of a question; he takes a shorter route—sees things in a distorted light—assumes for granted what he cannot comprehend, and jumps at conclusions. As the sheep follows the wether, so he follows his master, looks through his spectacles, believes in his infallibility, and swears by his authority. The more the assertion borders on the marvelous, the more greedily does he gulp it—so much easier is it to *assume* the truth of a proposition or statement than to prove it by sound logical argument and inductive reasoning.

I think I am not guilty of exaggeration in what I say. It really seems to me as if we were bereft of our senses. No sooner is a new remedy, an operation, or a method of treatment, introduced to notice, than it is puffed into gigantic proportions, and endowed with virtues as foreign to it as any other folly under heaven. Certain it is, there never was any greater need for deliberation and reflection than there is at the present time—greater need of asking ourselves, "Watchman, what of the night?"

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RESPIRATORY PERCUSSION.

BY J. M. DA COSTA, M. D.,

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In making examinations of the chest, I have been often struck with the difference of sound elicited on percussion when the patient is breathing quietly or in a forced manner, and have thought that this might be made a matter of valuable investigation. Having now for years paid attention to the subject, I have been gradually able to work out what I believe will add a method of physical exploration, which, if I mistake not, will tend to clear up, and by a very simple process, many of the obscure problems in the discrimination of pulmonary affections. For this new means of diagnosis I propose the name of *Respiratory Percussion.* The term is, I know, not wholly unobjectionable; but it is convenient, and sufficiently descriptive.

Respiratory percussion will deal, then, with the appreciation of the changes in the percussion note developed by the person examined holding his breath in a full inspiration or a forced expiration. There is an undoubted difference found under either circumstance when compared with the sound elicited during quiet breathing. As regards inspiration, this is more readily detected than as regards expiration; and whether this be the case or not, it is so much easier for the patient, that inspiratory percussion is far more generally applicable. Most of the results commented on in this paper have been, indeed, obtained by a study of the inspiration; but the expiration has not been entirely neglected, and here and there the help it affords will be alluded to.

Before, however, explaining what the results are when this

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method of physical exploration is applied to diseased conditions, it is necessary that we may have a standard for comparison, to inquire into the effect of respiratory percussion on the chest sounds in health. I subjoin a summary of a large number of observations grouped in accordance with the regions usually explored, and made on men having chests of good expansive power.

At the apices, and especially at what is described as the infraclavicular region, a full held inspiration increases the resonance, makes the sound fuller, and raises the pitch; and where, as is so common, the left side has normally a higher pitch, this disparity is preserved.

Below the apices, say from the upper border of the fourth rib downwards to where the pulmonary resonance ceases, the same holds good, but, even making allowance for the cardiac region, the resonance is relatively less increased on the left than on the right side.

Turning to the posterior part of the chest, we find, at the upper portions, in the supraspinous fossæ, and on a line towards the spine, that a long-drawn held inspiration makes the percussion sound much fuller, and raises the pitch. In several observations this was noted as higher on the right side, and some difference was preserved in the inspiratory effort.

In the region between the scapulæ and in both infrascapular regions, the tone, on gentle percussion, is distinctly pulmonary, and the pitch moderately high. On the left side, on ordinary percussion, an admixture of a tympanitic sound with the pulmonary resonance may be detected, certainly in the infrascapular region. The pitch on the left, both in the lower scapular and infrascapular regions, is somewhat lower on the left than on the right. A full held inspiration elevates the pitch generally, increases the resonance very much, but usually makes the difference between the sides less apparent.

These are the facts noted with reference to the inspiration. A held and complete expiration will greatly lessen, at the apices, the resonance, and lower the pitch; and though the phenomena are most clearly made out at the upper part of the

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chest anteriorly, the same general facts will be observed on percussing at any part over the lungs while in a fixed expiration.

As regards the quality of the percussion note, it is but little changed; it remains during these arrested respiratory movements that of pulmonary resonance; perhaps there is a little less softness, and the slighter hardness corresponds to greater resistance to the percussing finger. But in the held inspiration we obtain nevertheless the idea of a greater mass of tone; in the held expiration the reverse. The conditions of pitch alluded to I found most constant. Increase in volume of percussion sound goes, it is always asserted, hand in hand with fall of pitch. Not so here; and the exception may, I conceive, be explained by the altered tension of the structures, and then the slight change in quality mentioned is more apt to be found with heightened pitch. But whether this be the explanation or not, the fact is very appreciable.

I have already stated that the observations thus far alluded to were made on men. In women, the mammary regions interfere somewhat with the readiness with which the signs may be elicited; still they are in the main the same, and so they are in children, though, of course, we cannot always easily get a child to hold its breath sufficiently long for purposes of study.

But to turn from the results obtained in health to those presented in disease. And here let us take up, one by one, the more common pulmonary affections.

We begin with *bronchitis*. We find in this malady the percussion resonance, practically speaking, unaffected. Yet where extremely abundant secretions exist, and obscure the breath sounds, the clearness of the note may become impaired, and we are in doubt as to the state of the pulmonary textures. Respiratory percussion removes the doubt; the chest struck while in a full inspiration returns a sound exactly corresponding to the sound we should obtain in health. If, however, (and here at once a point of value becomes apparent), there be an extension to the finer structures and beginning consolida-

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tion, the note does not become fuller and more resonant, and the difference between the damaged point and the surrounding parts or corresponding portions of the other side is very manifest. If, however, the lung be merely collapsed, respiratory percussion gives an almost normal sound, unless the collapse be extensive and the power of expanding the lung be lost, or inflammation beset the collapsed lobules. And, as I had not very long since an opportunity of noticing in a child, the fact of the sound becoming under observation less and less changed by the breathing effort, goes to prove that this condition of things has happened.

In *acute lobar pneumonia* the dulness on percussion remains unchanged by a full inspiration during the stage of perfect hepatization. As resolution begins, the note heard on respiratory percussion is more resonant, more pulmonary. And this change may show itself in advance even of returning crepitation. Thus, in a case of pneumonia of the middle of the right lung which I saw last winter, and in which loud râles completely masked the blowing breathing, the dulness on percussion was found to be uninfluenced by full held inspiration, excepting the slightest rise in pitch. As, however, resolution began, and before returning crepitation was marked, respiratory percussion returned distinct pulmonary resonance.

Chronic pneumonia is so closely associated, in its clinical features, with phthisis, that it will be more convenient to discuss some of the traits when examining into this malady. But I may mention here what I have noticed in some cases of chronic pneumonia in which I know the further progress of the affection, and am cognizant that it ended in recovery.

In one instance, in a child eight years of age, in which the lung fully, though very gradually, cleared up, the consolidation was found at the lower part of the left lung, nine months after an attack of acute pneumonia. The dulness was decided, but did not amount to flatness. It lessened considerably on full held inspiration, proving that the lung-texture was already partly pervious. I considered this a favorable element in the prognosis, and the opinion given was confirmed by the issue.

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And we may find—as in a case of chronic consolidation, of a year's standing, that presented itself to me in June, 1873—that while over the lower part of a lung, where there was, with dulness on percussion, extreme feebleness of breath-sound, though with increased fremitus, the dulness was scarcely influenced by full held inspiration, at the upper part the resonance became distinctly clearer, teaching that the process of absorption had there commenced. Again, in a patient referred to me by Dr. John S. Dickson, of Pittsburgh, in October, 1873, in whom the left lung was consolidated, respiratory percussion, while it made the difference between the two sides very manifest, showed a considerable clearing on the left. I learned from a letter kindly sent me by Dr. Dickson, not long since, that the lung symptoms have disappeared. The same could, unfortunately, not be said of a mitral valve trouble from which the patient suffered.

While alluding to this case, I may mention a further point it suggests with reference to the mode of diagnosis under discussion. We see, at times, puzzling cases of persons who, with organic valvular disease, have been spitting blood, are perhaps born of consumptive families, and have suspicious physical signs at the apex of a lung, have impaired breathing, somewhat prolonged expiration, râles, slight percussion dulness. Is there, or is there not, tubercular disease? Very generally not. And we find the apparent dulness, due to heavy local congestion of the lung, with possibly slight tissue consolidation, wholly, or at least very largely, disappearing under full held inspiration, far more so than if, with the same physical signs, there had been tubercular deposition.

In cases of *pleurisy* we obtain much aid from respiratory percussion. Over the seat of plastic exudation of ordinary extent—instances of an extraordinary kind I have not had occasion to observe since engaged in this inquiry—forced inspiration diminishes the slight dulness that exists. Over the seat of a marked pleuritic effusion, actually no change takes place in the flat percussion note. At the very edge, however, percussion practiced during held inspiration strikingly clears

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the sound, or, rather, brings out the contrast between the pulmonary resonance above and the abrupt tone of dulness. We can turn this well to account in those instances we sometimes meet with, where, with dulness at the lower part of the chest, we are in doubt if the trouble be pleuritic effusion or chronic pneumonia. When, by respiratory percussion, the dulness at its uppermost limit becomes sharply defined, while it is unaltered below, it is an effusion. When the dulness changes in part, or remains unchanged, without a sharp line developed on full breathing, it is consolidated lung. I found this admirably illustrated in a case I saw in May, 1874, and watched for seven months afterwards. Here ægophonic twang existed just at the edge of the effusion; the lung was slightly dull, but on respiratory percussion cleared, and the abrupt dulness proved the affection pleuritic.

Of still greater value is respiratory percussion in those instances of pleuritic effusion in which we have blowing respiration at the back of the lung, and in which the question arises whether or not pneumonia coexists. How difficult it may be to settle this question is seen by the long and cumbersome rules laid down by leading authorities, and withal the amount of diagnostic trust to be reposed in them is not so great, that it is not generally acknowledged that the rules may mislead. The test I beg to offer is the simple one already indicated, somewhat extended. At the lower part of the chest the flat note remains unchanged; so will the sound over the upper part of dulness by forced respiration be practically uninfluenced if there be pneumonic consolidation. But if the blowing respiration be simply from compression or condensation of the lung, and not from hepatization, decided clearness takes the place of the dulness. I have repeatedly found the value of this rule; but in no case did it stand me in better stead than in this.

A gentleman, 60 years of age, was seized with violent pleuritic pain, soon followed by an effusion on the right side. Notwithstanding the occurrence of this, it hurt him so much to be moved that I had no good opportunity of examining the

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back of the chest for several days. When I did so, I found the most marked bronchial, even tubular, respiration, above the angle of the scapula. The voice there was ringing, and distinctly transmitted, and from the very hurried breathing and anxious face, it was but too evident that my patient was extremely ill. Had a pneumonia set in to complicate the pleurisy, or had the pleural lesion masked the lung trouble from the onset? True, there was neither cough nor expectoration, nor marked râles. But all these may be absent in pneumonia. I feared much that a grave pulmonary inflammation was before me, which would seriously influence the chances of recovery. I studied the tubular breathing closely, and all I could find was that it was less high-pitched and ringing than is common in pneumonia. But percussion gave the most comforting knowledge. The sound, which was very dull below and over the seat of almost suppressed breathing, was only slightly dull where the supposed hepatized lung was, and this dulness disappeared on full held inspiration. I assured my patient, who himself feared much that he had pneumonia, that no new and grave trouble had arisen, and in watching the case further, saw it terminate as one of pleurisy, with speedy absorption. Until the bronchial breathing disappeared —which it did in a few days—respiratory percussion always gave the same hopeful information.

While describing pleurisy, let us, for completeness' sake, see how some of its rarer features are influenced by respiratory percussion. The tympanitic note obtained at times at the apex is lost by full held inspiration. Thus, in an instance recently at the Pennsylvania Hospital, of large pleuritic effusion on the left side, in which the tympanitic percussion sound at the left apex decidedly contrasted with the lower pitched normal pulmonary resonance of the right, while a forced inspiration made this more resonant and slightly raised the pitch, it effaced the tympanitic character of the upper part of the left lung, rendering the sound somewhat duller, more like impaired pulmonary resonance. In doing this it hardly modified the pitch, only raised it slightly.

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In those instances of pleurisy in which perforation takes place and pus is voided often for so long, respiratory percussion will help us in deciding how much the lung is bound down or otherwise implicated. Thus in a gentleman whom I saw in June, 1873, with a fistulous opening that had been discharging pus for twenty-one months, the whole of the left lung was dull on percussion, but the respiration was heard everywhere, even at the lower part of the chest. Excepting here where the physical signs of consolidation existed, the lung cleared up markedly on forced breathing, making the dulness of the inferior portion, in part intensified perhaps by a slight fluid accumulation, extremely evident.

In turning to *phthisis*—and I use the word now without attempting to distinguish the varieties particularly—we find respiratory percussion giving us much to study. Indeed, so many points arise that I shall, in this paper, do no more than attempt to bring forward some of those that are clearly defined. In the very early stages of tubercular deposit, when auscultation detects for us prolonged expiration just beginning, with, perhaps, some enfeeblement of the inspiration at the apex, and ordinary percussion shows but little, or a doubtful difference between the two sides, respiratory percussion may help us greatly by making the difference more marked. It seems at times, on the affected side, to develop a dulness which previously cannot be said to have existed; or at all events, if it do not give this result, it makes the resonance of the damaged lung only slightly greater, raises the pitch, too; but does not bring out these changes strikingly as it does on the healthy side. On the other hand, in more than a few instances of persons who had been losing flesh, came of a tubercular family, had want of expansion at the upper part of the chest, and in whom the diagnosis of tubercular disease seemed probable, but was doubtful, I have allowed myself to be influenced by the normal results developed by respiratory percussion, and, tracing these cases up for long periods, have found that the impression made proved correct. And with these normal results I must class the fact that percussion in full ex-

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piration, while it showed less resonance, did not exhibit that decided modification and lessening of pulmonary tone we obtain when the lung has begun to be solid.

There are some other matters connected with the beginning of tubercular disease, such as the varying changes of pitch and duration, the alteration of sound in character, approaching a tympanitic note, which I shall allude to, but not dwell on; partly because it would lead me into discussions at variance with the limits I have set myself in this paper; partly because I have not fully solved some of the problems presented, and wish here rather to announce such general facts and laws as experience has abundantly proved.

When we have the deposit decided, and dulness manifest on ordinary percussion, respiratory percussion may show but little change in forced inspiration, except a slight rise it pitch, or the pulmonary resonance may be partly restored. In the former case the deposition is extensive; in the latter it is not; and we may thus have some means of gauging the amount of disease in the portion of lung over which we are examining, or, in other words, of seeing about how much of the pulmonary tissue is still capable of performing its function. Where we have both the apices decidedly affected, the physical signs, by the method of exploration under discussion, are not so easily made out, as comparison becomes more difficult; yet we generally find that the resonance of neither side is increased, is, in truth, usually decreased on full held inspiration, while the pitch is raised, and that forced expiration shows dulness and considerable resistance to the striking finger.

As regards the forms of consumption, there has not, so far as I have studied the matter, been any difference discernible; indeed, as the same physical conditions may occur, so will the same physical signs. In instances of pneumonic phthisis I have often found, where the disease affected the lower lobe, the most obvious dissimilarity between the lower and upper parts of the chest; if percussed during the acts of breathing, large portions of the lung may still partially clear up. But there

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is nothing different in this respect from what has already been said in speaking of chronic pneumonic consolidation.

When, in a case of phthisis, we find that the dulness on percussion is no longer modified by the forced inspiration, we have a certain test of the malady having progressed. And this test may be made a very delicate one. I have recently examined a gentleman in whom the physical signs of crackling and prolonged expiration were the same as when noted eight months ago. The vesicular murmur had become feeble in inspiration; this was the only decided change. Yet he had night-sweats, was worse in several respects, and respiratory percussion alone, which showed dulness scarcely influenced, and very unlike what it was at first, really demonstrated that the lung affection had extended, and brought the physical signs into connection with the general symptoms.

Let us now turn to the stage of phthisis in which cavities have formed. Do we derive any information here from respiratory percussion? Yes, most interesting. We find the percussion note, in full inspiration, altering to dulness, and this whether we have that mixture of dull and tympanitic sound encountered in percussing over cavities, or the cracked-pot sound, or the amphoric note. Some remnant of the peculiarity of the original sound may remain; but the character of the bulk of the sound is altered. It has become dull, and there is more resistance, and usually a higher pitch. Let me cite briefly a few illustrative cases, selected from many and very similar observations.

The case of a man in the Pennsylvania Hospital in January of this year, who had, immediately under the left clavicle, crackling, prolonged expiration, some dulness; in the second interspace, two inches from the left of the sternum, cracked-pot sound, bronchophony, approaching to pectoriloquy, respiratory sounds obscured by heart-sounds. Full held inspiration lessened the dulness somewhat immediately under the clavicle, and raised the pitch; its effect on the spot of the cracked-pot sound was to largely destroy it, render the sound duller, heighten the pitch.

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In the case of a tubercular woman in the hospital in 1871, occupying Bed 13, there was a hollow respiration under the right clavicle. Percussion showed dulness, mixed with a tympanitic sound; the note became duller, and of higher pitch on full held inspiration. On the left side anteriorly, where amphoric respiration and amphoric percussion sound were found, forced inspiration produced the most marked change to decided dulness.

A man died in the hospital in December, 1870, who, examined a few days prior to death, presented, at the left apex, dulness, mixed with a cracked-pot sound; at the lower part of the chest the sound was simply dull. There was dulness on percussion also at the right apex. A full held inspiration seemed to develop this more decidedly, and raised the pitch. At the left apex the sound became duller, and the cracked-pot sound disappeared. The dulness at the lower part of the chest was somewhat lessened. At the autopsy there was almost uniform infiltration of tubercle of the upper lobe of the right lung anteriorly, less posteriorly; in the upper lobe of the left, a cavity was detected 3½ by 2 inches, the long axis extending obliquely downwards and somewhat backwards. The walls anteriorly and at the apex were only one-sixth of an inch in thickness. The remainder of the lung was much infiltrated, with grayish and cheesy masses.

Bed 6 was occupied, in the winter of 1871, by a man who presented whispering pectoriloquy, percussion dulness mixed with cracked-pot sound, which yielded to simple dulness on forced inspiration. At the autopsy a considerable cavity was found at the upper part of the left lung.

In Bed 5 of the men's medical ward of the Pennsylvania Hospital a case terminated fatally, which, examined the day before death, had shown, besides the auscultatory phenomena of a cavity at the upper part of the right lung, a tympanitic percussion note mixed with dulness, which, on full held inspiration, became very much duller. A large cavity was found occupying the right apex, and extending downwards posteriorly about three inches.

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The law these cases illustrate I hold to be invariable where the cavity is of any size. I suppose the explanation lies in the tenser condition of the walls of the excavation, produced by the forced breathing. This may be the reason why the more rigid walls of a bronchial dilatation are not thus modified, and do not show the altered percussion phenomena; and I believe that we shall find in this a means which, in doubtful instances, will decide between the two affections. I cannot quite positively say that no change ever takes place in bronchial dilatation, for the opportunities of investigating marked cases of this comparatively rare disorder have not been very many since I have been studying the subject. But I can say that, thus far, I have found the rule laid down without exception. Not only is there no dulness produced on full held inspiration over the seat where the auscultatory signs of a cavity are caused by the dilated bronchus, but, as I had occasion to study in a case that presented itself last October, and was watched for some time, the mixed, dullish, yet vesiculo-tympanitic percussion resonance, became much clearer, and rather more tympanitic, nearly all dull admixture being lost.

We have thus far, for the most part, been examining affections in which alterations of dulness and questions of consolidation are the most prominent. We may now review some in which excessive clearness, or at least modifications produced by large amounts of air, are the striking traits; for example, pneumothorax and emphysema.

In *pneumothorax* I think that respiratory percussion will tell us—a point often of a great deal of doubt, yet of much importance—whether the opening through which the lung communicates with the pleural sac is closed or not. When full inspiration does not modify the percussion note, the former state of things exists, excepting if the lung be expanding again after tapping, or the use of the aspirator. When the extreme resonance, or the tympanitic or amphoric note is essentially changed, we may, I believe, infer that the air still rushes from the lung into the artificial cavity in the pleura. I say I believe; because, though it has proved so in every in-

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stance I have thus far examined, I have not, in enough, compared the *post-mortem* results to announce the law as an invariable one.

From this case, under my care at the Pennsylvania Hospital in 1870, some of the points alluded to can be well learned: A young Canadian, evidently tubercular, had, five weeks before admission, sharp pain in the right side of the chest, followed by great shortness of breath. Percussion yielded an amphoric note from the third rib down; above it was dull, with an amphoric admixture of sound. Auscultation showed metallic breathing, but neither tinkling nor splashing was discernible. Full held inspiration at the right apex rendered the percussion sound clearer and more resonant; below the third rib it dulled it, almost destroyed its amphoric character, heightened the pitch. This observation was repeated over and over again. On opening the thorax at the autopsy, a large amount of air escaped from the right pleural cavity, which contained no fluid whatever. The lung was very much compressed and contracted, and adherent to the chest-walls by long, but thick adhesions. It showed tubercular deposits, and a few points of softening near the pleura; one of these had bursted, and the point of rupture was found in the anterior surface of the lung, just below the apex.

In *pulmonary emphysema*, respiratory percussion gives most valuable information. It helps us to establish the presence of the disease; it enables us to form some idea as to its extent. And it does so in this manner: In marked emphysema the excessively clear or vesiculo-tympanitic note is unchanged by percussing during the act of breathing; when the emphysema is not so great, it is slightly changed. But if emphysema be present at all, except to a trifling degree, the sound is not very much altered, and we are thus, in many a doubtful case, with asthmatic symptoms, greatly aided in deciding whether dilatation of the air-vesicles exist or not. I have notes of numerous observations proving the correctness of these statements, and I had thought of illustrating this part of the subject with them. But they are so positive, and the general law they

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make out is so clear, that it would seem a useless reiteration of readily ascertained facts. In truth, I look upon the evidence elicited by respiratory percussion with reference to emphysema as being one of the most serviceable contributions that has come from its study.

Thus here, as in previous sections of this paper, I have endeavored to show how respiratory percussion may be made available alike in detecting disease and in ascertaining its limits. I have tried to make clear that it helps us often where we most need help; and though it requires care and some training to practice, it does not do so in any greater degree than that important science of which, I trust, it may form henceforth a recognized branch.—*American Journal of the Medical Sciences*, July, 1875.

SCLEROSIS, WITH EBURNATION OR EXOSTOMA OF THE HUMERUS.

DEATH, FROM HEMORRHAGE, IN THE ATTEMPT TO AMPUTATE ABOVE THE SHOULDER-JOINT.

BY PAUL F. EVE, M. D., NASHVILLE, TENNESSEE.

WILLIAM VANBUREN WINSTON, of Weakley County, Tennessee, aged 25, had his arm broken in 1865, from which he is said to have recovered in about six weeks. July last (1874), nine years after this, and eleven months before the operation about to be described, he was thrown from a horse, striking

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against the shoulder and arm of the injured side. He came to Nashville on the 10th of February, 1875, and at the Medical College the case was made the subject of a clinical lecture. A tumor, now about the size of an orange, located apparently under the deltoid muscle, was commented upon; the apprehension that it might not be an innocent one expressed, as the patient's family was said to be consumptive; and he having declined to have it now excised, the proposed treatment was then explained. This consisted of a tonic alterative, good nourishment, and strict observance of hygienic laws, which latter our country friends so much neglect. He was also to use compound iodine ointment over the affected part.

Nothing further was heard of the case until the 23rd June, when Mr. W., accompanied by his father-in-law, returned to Nashville, after an absence of four and a half months. The tumor, he now said, was twenty-four inches in circumference, and the affected limb found quite œdematous. At this interview, an opinion adverse to any operative interference was given; but after the patient had been refreshed by sleep, etc., it was suggested that even an amputation above the shoulder-joint (as this alone promised relief,) might be justifiable, and to which he finally assented, with the full understanding that a successful issue was by no means certain.

Accompanied by my son, Dr. Duncan Eve, we met, at the residence of Mr. W., near Dresden, West Tennessee, on the 26th of June, Dr. Shannon, the family physician, and Drs. Johnson, Edwards, Cutter, Shearer, etc.

The upper two-thirds of the arm was occupied by an immense tumefaction, measuring in circumference twenty-five and one-half inches, remarkably hard and weighty, so that the patient inclined his body to that side, and supported it, when walking, with his right hand, and, while seated, rested it upon his knee. It could be abducted from the body only a short distance, and rotation of its head in the glenoid cavity was very limited. Pressure upon the acromion produced pain. This tumor had once been punctured by Dr. Shannon, when blood alone escaped, and the little cut healed kindly.

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In proposing to attack so formidable an affection, it was explained to the assistants that three distinct operations were contemplated—first, to divide the clavicle (for this could be wired), in order to reach the subclavian artery, since the great tumefaction prevented the shoulder being drawn downwards towards the first rib, upon which rests this blood-vessel; secondly, to tie that artery; and thirdly, exsection of the diseased mass in its entirety.

In the first incision made over the clavicle near its posterior edge, four vessels bled furiously, and several attempts to ligate them with silk ligatures proved unavailing; the hemorrhage was then arrested by a compressed sponge. There being no cellular tissue by which the arteries and veins could retract and contract, was undoubtedly the cause of the fatal hemorrhage in this case.

In one other instance, from cellulitis, had I encountered this same embarassing condition.

Perceiving that compression controlled the bleeding vessels, I proceeded to the main operation, and by free rapid incisions, an attempt was now made to amputate at the scapulo-humeral articulation. Here again profuse hemorrhage followed every stroke of the knife. The operator was now warned that the pulse was failing, and soon after respiration ceased. Esmarch's bandage, with other means for compression, were resorted to most vigorously and persistently, even having rocourse to Nélaton's method to restore respiration, but all proved unavailing.

The diseased mass was now removed, and kindly given us; it is an osseous expansion of the upper portion of the left humerus, and is undergoing preparation to be preserved as a specimen. It is a remarkably hard irregular osseous structure, very rough on the surface, having large orifices, from which escaped a thick pulpy substance. No normal structure was detected; no cartilage, except about one-third of the articular surface, with the corresponding glenoid of the scapula. The portion brought home with us weighs ten pounds.

The affection was not an exostosis or hypertrophy of bony

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tissue; but there is a hardening of the periosteum, with eburnification (ivory-like) of the bone itself, constituting sclerosis and eburnation.

Another marked peculiarity of the specimen is the total destruction of the cellular tissue throughout the diseased mass; and moreover, the blood which escaped was so black that by the per saltum alone could the arterial be distinguished from the venous. Neither was it a fungus hæmatodes, yet it appeared evidently semi-malignant, as it affected all the tissues alike—with destruction.

This is the first patient lost on the table, due directly to the operation, in the practice of over forty-eight years; and for which, too, if any person is to be censured, it is the operator alone; for none could have been better assisted in its performance, and never were greater efforts made to revive the patient, or few treated more kindly by the relatives and friends of the deceased. It is true that he never knew, in the history of the case, that the patient had been injured, years previously, by a fall, until after his death; and, moreover, it is now certain he could not have survived very long in any event. It may be proper, too, to state that his friends believed that his system had been impaired by two snake-bites.—*American Medical Weekly.*

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Extracts from Home and Foreign Journals.

SURGICAL.

PULMONARY CAVITIES TREATED BY INJECTIONS THROUGH THE CHEST WALLS.

Dr. Wm. Pepper (*American Journal of the Medical Sciences*, October, 1874,) gives an exhaustive study of the above subject. He makes evident the following points:

1. The idea of opening lung cavities by an incision through the chest-walls is at least as old as Baglivi; but owing to the very imperfect character of early clinical records of thoracic diseases, it is difficult to show that such an operation was actually performed before the last century, or, more probably, the present one.

2. The idea of conducting continuous treatment of such cavities by local applications, made directly through the chest walls, has been seriously entertained only within the past few years.

3. The possibility of puncturing the lung in a state of health, with delicate needles, was demonstrated in a few instances by the advocates of acupuncture, and more recently in the lower animals by Koch and others.

4. The operations of Storks and Mosher have shown that lung cavities are very tolerant of external interference, and that they may be cut down upon and opened, canulæ introduced and retained, and various medicinal agents injected in solution or spray.

5. The independent observations, reported in full in this paper, show that the continuous treatment of lung cavities by

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repeated injections, by means of delicate canulæ, may be conducted without pain, hemorrhage, traumatic irritation, or interference with internal medication and hygienic measures.

6. The cases best adapted for this local treatment, are those in which a single superficial and circumscribed non-tuberculous cavity exists; but even when there is implication of the rest of the lung, or incipient disease of the opposite lung, some benefit may be expected.

7. The mode by which such treatment does good is chiefly by altering the character of the morbid action in the walls of the cavity, diminishing the amount of purulent formation, as well as the degree of hectic irritation and the danger of constitutional infection. A certain amount of rest for the walls of the cavity is secured by the marked relief afforded to the cough. The cases recorded show that this treatment may favor the cicatrization and contraction of such cavities.

8. In the cases treated (over seventy injections were given), it has shown itself free from all danger, and of a certain *degree of positive clinical value,* since, during its use, uniform improvement, to an exceptional degree, has taken place in both the general and local conditions of the patients.—*Detroit Review of Medicine and Pharmacy.*

NITROUS OXIDE IN TUBERCULOSIS.

Dr. C. W. Larison (*Cincinnati Medical News*) reports a case of miliary tuberculosis, in which, after the failure of all ordinary remedies, nitrous oxide was used with most desirable results. Improvement was very slight at first, but steadily increased until complete recovery resulted. Cutaneous circulation assumed its vigor, muscles performed their functions with greater precision, the pulse became stronger and less frequent, appetite became voracious, weight increased, etc. The amount of gas taken was about five gallons a day, at intervals.—*Ibid.*

LINÉARD'S PROCEDURE IN RETAINED PLACENTA.

In the *Gazette des Hôpitaux,* February 25th, Dr. Linéard, of Caen, calls attention to the fact that he, many years ago,

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published a simple procedure, which he has always found as effectual as it is safe and easy, and which is also a very efficacious means for the prevention of after-pains and uterine hemorrhage. It consists in the injection of the umbilical vein with cold water. A clean section should first be made, so as to bring the vessel plainly into view, and also to shorten the cord, which should not be more than from twenty to thirty centimetres in length. A syringe, containing at least 150 grammes, and having a long fixed canula, should be employed. The colder the water used, the less is the quantity that need be injected; so that while 150 grammes suffice at the ordinary temperature of winter, twice or thrice as much may be required in summer.—*Medical and Surgical Reporter.*

SEPTICÆMIA AFTER OVARIOTOMY.

The following aggressive propositions on this subject are defended by Dr. Netter, in the *Revue Medicale* of February last:

1. The septicæmia of ovariotomists as a cause of death is a delusion.
2. Their practice founded on this false theory might be simplified.
3. The injection of an abundant quantity of warm water, to dilute and render harmless the poison, is alone required.

He states that Nussbaum has found that the injections, during the first few hours, are those which do good; after this the fluid effused is diluted and less irritating.—*Ibid.*

REASONS FOR AND AGAINST TRANSFUSION IN ACUTE AND CHRONIC DISEASES.

Billroth (*Weiner Med. Woch.*) has arrived at the following conclusions regarding transfusion:

In acute anæmia, injection of human blood may be justified in a case of the most urgent need, although hitherto it has seldom been used under such conditions; there are no other satisfactory indications for it, either theoretical or empirical. He regards it as still undecided whether human blood is to be

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used to the exclusion of the blood of other animals. When it is designed to substitute healthy for diseased blood, as in cases of septicæmia, there is no reason, on any theory, to look for a favorable effect from the introduction of new blood, which, at the best, is comparatively small in amount. Even supposing it possible to renew all the blood in the system, the success of the operation would hinge upon the assumption that the putrid poison was present in the blood only, which is neither proved nor yet probable. He is also decidedly opposed to the view that there are either theoretical or practical reasons to expect anything at all from transfusion in chronic diseases.

In this connection some recent experiments of Landois are of interest:

It seems to be established that the blood-corpuscles of animals, when introduced into the blood of another animal, are dissolved, with the result of forming coagula in the interior of the circulatory system, and to this phenomenon Landois is inclined to attribute all the symptoms noticed subsequent to those immediately following the transfusion, and attributable to the plugging up of the capillaries and small vessels. Sometimes, too, this plugging of the capillaries is due to these blood-corpuscles collecting together in masses before dissolving, the evidences of which consist in stases, extravasations, and sero-sanguineous effusions found on section of animals treated by transfusion. The corresponding symptoms during life are dyspnœa, increased peristalsis, vomiting, the occurrence of hæmoglobin and albumen in the urine, and the decrease of urea; coldness of the skin and the formation of an exanthem resembling urticaria; rigidity and contractions of the muscles; irritation succeeded by depression of the nervous system, and capillary hemorrhages from womb.

He concludes, then, that the transfusion of animal blood in chronic disease cannot exert the favorable effects reported, because of the renewed functional activity in the foreign blood-corpuscles, for these are dissolved; such good effects, if they occur, are rather due to stimulation of the organism, as by an alterative.—*Medical Record.*

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MEDICAL.

MOVEMENTS OF THE UTERUS.—EXPERIMENTAL RESEARCHES.

As of interest in many directions, we give the following results of experiments by Oser and Schlesinger on the influence of suppression of respiration and arrest of circulation on the movements of the uterus (*The Clinic*, July 18, 1874—*Gazette de Joulin*). The experiments were performed on young rabbits, not yet pregnant, but capable of becoming so. In these animals, the uterus is immobile under regular respiration.

1. The suspension of respiration provokes, after 10 to 30 seconds, general contractions of the uterus. These disappear as regular respiration is reëstablished.

2. Compression of the aorta produces, at the end of 80 to 100 seconds, a general contraction of the uterus. Compression of the aorta, in post-partum hemorrhage, is thus perfectly justifiable.

3. The contractions of the uterus which supervene a few seconds after arrest of respiration may not be considered as a peripheric irritation of the organ produced by the special action of the venous blood. If arrest of respiration be combined with the compression of the aorta, contractions supervene at the end of 10 to 30 seconds, and not slowly, as after simple compression of the aorta. These phenomena are always modified by troubles of the nerve-centres.

4. Copious hemorrhages determine also, at the end of several seconds, generalized contraction of the womb, explicable solely by irritation of the nerve-centres.

5. The obliteration of the four cerebral arteries provoked, after several seconds, generalized uterine contractions. Ligatures applied so as to lose as little blood as possible, produced a result identical with that of suspension of respiration.

6. After section of the spinal marrow, contractions of the uterus did not supervene more speedily on suspending respi-

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ration than on compressing the aorta. Hemorrhage and occlusion of the cerebral arteries were now without effect on the womb.—*Detroit Review.*

WHAT HAS VIVISECTION DONE FOR MEDICINE AND SURGERY?

The following imperfect, and yet emphatic answer, is from the *British Medical Journal*, January 9th, 1875:

1. The transfusion of blood, and introduction directly into the blood, of medicines, first proposed by Robert Boyle, in 1665. In 1665 Lower transfused blood from vessels of one animal into those of another. First done in a human being by Dennis and Emmerets, in France, in 1666; Blundell's celebrated experiments on animals in 1818. Since done by many others—Dumas, Milne Edwards, Dieffenbach, Bischoff, Doubleday, Brigham, Waller, Burton, Brown, Klett, Lane, Lavy, Berard, etc. etc.

2. Artificial Respiration.—Vesalius showed that, by blowing up the lungs with air, after the chest was opened, stoppage of the heart's action might be delayed for some time. Hook, in 1664, first demonstrated the possibility of artificial respiration; Brodie, Hope, Le Gallois, Wilson, Philip, Marshall Hall, Silvester, and others, have practiced it on human beings.

3. The causes of the cardiac sounds have been determined entirely by vivisectional experiments.

4. The phenomena of the circulation within the cranium examined experimentally by Kelly, Burrows, Reid, etc.

5. Hunter's operation for aneurism was first demonstrated and tried on living animals. This he did in 1785. He also found, by experiments on animals, that in many cases the arterial coats were diseased immediately above the aneurism, and that, consequently, it was necessary, in order to avoid secondary hemorrhage, to place the ligature higher up.

6. The office of the periosteum in regeneration of bone has been experimentally demonstrated by Dr. Hamel, in 1740, Hunter in 1772, Syme in 1837, Wagner in 1853, and Leopold Ollier in 1858. All practical surgeons recognize the practical value of these observations in their relation to diseases of bones and joints.

7. The researches of Redfern into diseases of cartilage.

8. The researches of Stricker, Cohnheim, Von Recklinghausen, and many others, on inflammation, especially of the cornea and serous membranes.

9. Without vivisection we would know almost nothing of the phenomena of inflammation.

10. Experimental inquiries into many zymotic diseases, showing occurrence of micrococci.

Physiology is largely composed of facts based upon vivisec-

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tions. Therapeutics is yet in its infancy, but nearly all the facts definitely known regarding the action of remedies have been gained by experiments or animals. To stop experiments on animals would as surely arrest the progress of physiology, pathology, and therapeutics, as an edict preventing the chemist from the use of retort, test-tube, acids and alkalies, would arrest the progress of chemistry.

This hue and cry against vivisection—equally vigorous on both sides of the Atlantic—is the offspring of an unreasoning ignorance. If this ignorance were confined merely to the laity, there would be no need for grouping together the above facts. But there are many in the profession who talk as if they were ignorant of these facts, and the thousand other similar ones. It does seem to us impossible that such should read these, and ponder their bearings upon human life, and health, and happiness, and still be doubters respecting the value to humanity of vivisection.—*Ibid.*

APOMORPHINE.

This remedy, which, in composition, differs from morphine only in having one equivalent less of water, possesses properties totally different from the latter body. It exercises an elective and almost exclusive action on the nervous centres which control vomiting. Employed hypodermically, which is the best way of giving it, it produces vomiting from six to ten minutes. There is no subsequent sickness or irritating effect on the digestive tract. The dose for adults is 7 to 8 milligrammes, for children 1 to 2 milligrammes. M. Moeller recommends that the first injection should contain five milligrammes, to be repeated if vomiting does not ensue. M. Jurasz recommends apomorphine as an expectorant, and administers it in doses of from one to three milligrammes every two hours.—*Lyon Médicale.*

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Editorials, Reviews, Etc.

BLOOD-LETTING.

We take pleasure in bringing before the readers of this number of the Journal a paper read before the late meeting of the American Medical Association, entitled "One of the Lost Arts of Medicine" (blood-letting), by Prof. Gross. The high position of Prof. Gross as a pathologist, his life-long devotion to the science and art of Medicine, and the independent manner in which he brings forward his propositions, in this paper, should cause it to be carefully read and thoughtfully considered.

In our opinion, the title of the paper is not strictly correct: blood-letting is not a "lost art," but a sadly neglected one. There is a class, and not a small one either, of thinking, reasoning physicians, who have ever kept their lancets bright and in their pockets, ready for use whenever, in their good judgment, the occasion required it.

Our profession is not rich enough in its resources to spare one arrow from its quiver in its attaek upon disease, and the true physician avails himself of every resource within his command in his conflict with the varied pathological conditions and their phenomena.

The constitutional phenomena of disease are as varied as the faces we meet on the street. In some we see all the evidences of excessive overaction; in others an extreme degree of depression; and in others still, we see intensely perverted action; and we meet with every grade of constitutional dis-

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turbance between these extremes. Now common sense would teach us that, for these various constitutional symptoms, a treatment adapted to the varied conditions would be necessary.

No physician can be successful in his practice who does not thoroughly study the condition of his patient, and deduce from that study indications for his treatment; and who does not study well the means to be used in fulfilling those indications. The skillful physician will choose from the various means at his command such as, in his good judgment, are adapted to the particular conditions of the case, and use them conscientiously, without prejudice or fear, whether it be blood-letting, nauseants, depressants, or tonics and stimulants, &c.

That blood-letting does produce a powerful and rapid impression on the animal economy no one can deny; and such an impression, too, as cannot be effected by any other remedy, or class of remedies. It does diminish the amount of the circulating fluid; it does lessen the rapidity and force of the circulation; it does change the quality of the blood; it does make an impression on the nervous system which is reflected to or felt by the circulation; it does promote absorption. Effecting such results, it can certainly be used by the skillful physician with great, incalculable advantage in many cases of disease.

That it has, in times past, been greatly abused, is certain, but that is no reason why we should neglect a remedy capable of conferring so much benefit in cases adapted to its use. Nor is it an objection that judgment and discretion are required in its practice. Nor should we complain because it is indicated in only a small minority of the cases we treat.

Blood-letting, to be beneficial, should only be resorted to in young, or comparatively young persons, affected with diseases of some of the vital organs of the sthenic type, characterized by plethoric state of the system, with a strong, full, hard, bounding pulse, and intensity of morbid action. Again, it should be used in the early stages of disease, before great pathological changes in the tissues are effected. And lastly, small as the operation is, it should be performed in a proper manner. The

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patient should be in the erect posture, and a free incision be made in a large vein, that a considerable quantity of blood may escape in a short time.

Now if blood-letting is resorted to with judgment and discretion; if the patient is in a proper condition for its application; if the proper time in the progress of the disease has been seized, and if the little operation is done in a proper manner, it will not fail to bring good results.

Unfortunately, there is a large class of physicians, as Prof. Gross has remarked, who never think of using the lancet or cups or leeches, in their practice. Brought up under the teachings of Todd, Bennett, and Tanner, and their disciples, their whole pathology is based upon the idea of debility, and their entire therapeutics on restorative medicines.

It is a question whether this class of physicians have not done more harm with their exclusive system than did our fathers with their antiphlogistic measures.

We hope the day is not far distant when these therapeutic differences will be settled, and the scientific physician, in the true catholic spirit, will embrace, in his *armamentarium*, every agent which is capable of mitigating or controlling disease, without fear or prejudice.

MONUMENT TO HORACE WELLS.

A colossal statue of Dr. Wells, in bronze, has been executed by Truman H. Bartlett, and is to be erected in the city of Hartford. An appeal is made to physicians, dentists, and others, for funds to complete and ornament the pedestal. Communications may be addressed to Dr. E. K. Hunt, Chairman of the Committee of the Hartford Medical Society. Subscriptions may be forwarded to Dr. G. W. Russell, Treasurer, Hartford, Conn.

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DUGAS' PATHOGNOMONIC SIGN.

Editors "Nashville Journal of Medicine and Surgery":

In your article on "Dugas' Pathognomonic Sign of Dislocation of the Shoulder-Joint," you quote Gross thus: "Another sign, although not an infallible one, first pointed out by Dugas, of Georgia, is the inability which the patient experiences in touching the sound shoulder with the hand of the injured limb."

Now, please refer to page 74, third edition "Gross's System of Surgery," and read: "Another sign of *great certainty*, as has been shown by Dr. Dugas, is that neither the patient nor the surgeon can place the fingers of the injured limb upon the sound shoulder, *while the elbow touches the point of the chest.*"

Our friend kindly reminds us that we have, in our editorial in the May number of the JOURNAL, on Dugas' sign, misquoted Prof. Gross, as evidenced by his extract from "page 74, third edition, 'Gross's System of Surgery,'" &c.

We never quote anything incorrectly; but we always prefer taking the last sayings of an author, and consequently always procure the last edition of every standard work that is issued from the American press. We generally give away our old editions; and in this case, we may have given our third edition of Gross to the very friend who, thinking we were quoting from memory, as we had given our authority away, kindly informed us what Gross did say.

We made our quotation from the fifth, "greatly enlarged and thoroughly revised," edition, of Gross, which we keep always lying on our table.

THE EDITORS will not be responsible for views expressed by contributors.

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FEAR OF BLOOD-LETTING.

The following item from the *London Lancet* very well illustrates the mortal fear with which blood-letting is regarded by many of the profession:

Dr. Rawdon Macnamara says: "Some time ago I had a patient under my care suffering under urgent symptoms of impending suffocation consequent upon acute inflammation of the upper portion of the larynx and adjacent parts. A consultation was held, of surgeons of great operative ability, and also of great experience. All were willing to sanction my opening the trachea, but not one would sanction my opening a vein at the bend of the elbow! However, not being as thoroughly impressed, as perhaps I should have been, with the importance of the doctrine of the change of type in disease, I insisted on bleeding my patient; and never shall I forget his sense of relief as ounce after ounce escaped into the cup, until at last he exclaimed, 'Thank God, I breathe now as well as ever I did!' and from that out his convalescence was uninterrupted."

BILLS for subscription to the JOURNAL have been sent to all our delinquent subscribers. Will they please gladden the heart of our printer by a prompt response?

WE decline to send specimen copies to the numerous applicants. It has long since become a nuisance.

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BOOK-NOTICES.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by Dr. H. von ZIEMSSEN, Professor of Clinical Medicine in Munich, Bavaria. Volume III. Chronic Infectious Diseases. By Prof. CHRISTIAN BAUMLER, of Erlangen; Prof. ARNOLD HELLER, of Kiel, and Prof. OTTO BOLLINGER, of Munich. Translated by ARTHUR H. NICHOLS, M.D., of Boston; WM. ASHBRIDGE, M.D., of Philadelphia; JAMES G. HYNDMAN, M.D., of Cincinnati; and EDWARD B. BRONSON, M.D., and EDWARD L. KEYES, M.D., of New York. ALBERT H. BUCK, M.D., New York, Editor of American Edition. New York: William Wood & Co. 1875.

We have received the third volume of this great work, and with much pleasure we have been closely engaged in reading its pages. It is entirely taken up in the consideration of Chronic Infectious Diseases. In every respect it is fully equal to the preceding volumes.

The first article—on the interesting subject of Syphilis—is from the pen of Prof. Christian Bäumler, and occupies 308 pages. The field seems to have been traversed with great thoroughness and fidelity. In reference to the question of syphilitic poisoning, which has been agitating syphilographers for some time, he takes the ground of unicity, but admits that there may be a local affection from another and distinct poison, and that these two poisons may occur together.

On the subject of prevention of the disease by legislative enactment, his pages are very good. He recommends the judicious use of mercury in the treatment of syphilis. Taken altogether, it is a most excellent article on a very interesting subject.

The next 240 pages is on Infection by Animal Poisons, by Otto Bollinger—including Glanders, Anthrax of Animals, and Anthrax of Man. Anthrax of animals is an acute infectious malady, which breaks out commonly in an epizootic or enzootic manner, and is not infrequently sporadic in herbivorous ani-

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mals and swine. It is transmissible to a great number of other animals, as well as to mankind. He then discusses fully the subjects of Hydrophobia, Foot-and-Mouth Disease, Sting of Insects, Snake Bites, &c.

The latter part of the volume is occupied with a paper from Arnold Heller, on Migratory Parasites, the Echinococcus, the Cysticercus Cellulosæ, and the Trichinæ Spiralis.

Take it altogether, the third volume of Ziemssen's Cyclopædia is interesting and instructive, and we cannot do better than to advise our readers who have not yet become subscribers to the work, to do so at once.

A Manual of Diet in Health and Disease. By Thomas King Chambers, M.D., Oxon., F.R.C.P., London, Honorary Physician to H.R.H. the Prince of Wales, Consulting Physician to St. Mary's and the Lock Hospitals, Lecturer on Medicine at St. Mary's School, Corresponding Fellow of the Academy of Medicine, New York, etc. Philadelphia: Henry C. Lea. 1875.

This book, on one of the most important subjects that can claim our attention, like all the works of this distinguished author, is replete with interesting matter, gotten up in pleasant and familiar style. After discussing the theory of dietetics, he takes up the choice of food. He discusses that subject admirably and sagaciously. Then comes a most excellent chapter on the preparation of food. This is an important chapter. How much distress and suffering might be avoided by attention to hints here given! and how much pleasure and comfort might be gained!

The chapter on Digestion is judicious.

In the chapter on Regimen of Infancy and Motherhood is contained many important suggestions. "It may be presumed that no Englishman doubts that the best food for a new-born infant is mother's milk." It is strange that any one should have such a presumption; and yet, but a few weeks since we saw a small delicate infant ordered from the mother's breast—a mother in perfect health, too—and put upon beef tea, by an experienced physician. If a child must be taken from the breast, the best substitute for its mother's milk is the milk of

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the cow or goat, properly prepared. In this connection our author very properly calls attention to the necessity of attending to the nursing mother's diet. This is a very important matter, and one which is too often neglected.

In the following chapter, on the Regimen of Childhood and Youth, we find this sensible advice: "Young people should not be brought up to the habit of taking physic. * * * The consequence of frequent drugging is sometimes real illness, generally a debilitated state of the digestion, and almost always a disposition to fly to drugs for the immediate relief of petty inconveniences," &c.

On the Effect of Alcohol on a Healthy Man, he sums up as follows:

1. When taken in moderate quantities, and with meals, it often somewhat increases the appetite and the digestive powers. And the *modus operandi* by which it effects this object, is by curbing the deleterious consequence of excessive energy of the nervous system.

2. When taken in excess, its first noxious influence is on the nervous system, and hence we find in predisposed women "hysteria," and in men "alcoholism," or "chronic delirium tremens."

3. When taken in excess, it so far impedes the renewal of the nerve tissue, that the vital activity of the blood-vessels is diminished over-much and over-long.

4. Of this diminution of the circulation, one result is local congestion of various parts, temporary at first, and quite capable of relief, but by long continuance tending to produce permanent lesions.

5. If too long deprived of the nervous energy which presides over interstitial growth, the parts fall into atrophic degeneration; and instead of elastic, fibrous, areolar, muscular tissue, and whatever else of subtle structure may be needful to animal life, there is deposited only a mass of friable, lifeless substances, midway in chemical composition between albumen and fat.

6. It is probable that these noxious influences are continued so long as the alcohol is retained in the blood.

7. The principal lesions induced by steady regular excess of alcohol are cirrhosis of the liver, Bright's disease, condensation of the lungs, thickening of the larynx and bronchi, ossification and thickening of the arteries. And it is difficult to say what secondary lesions may not follow upon these.

8. The increased risk to life from injury or acute disease, incurred by the intemperate, may be accounted for by some amount of the afore-mentioned atrophy having already taken place in their bodies, and so diminishing their force of recovery.

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9. For there appears to be a likelihood that the immediate anæsthetic power of alcohol will tend to spare the nerves the shock of the external causes of disease, and so render it less injurious to a previously sound man.

10. Alcohol cannot be trusted to prevent tuberculosis, though it retards its progress.

11. Taken in still greater excess at once, in fact so as to produce drunkenness, it is probably not nearly so fatal in its consequences. The poisonous drugging of the nervous system is followed by an attack of indigestion and general pain, during which the blood purges itself of the alcohol.

12. Even should the blows to the nerves inflicted by drunken bouts be continually repeated, the consequences follow in crises, and may be recovered from, which cannot be said of atrophic lesions. These crises usually consist of the well-known phenomena of delirium tremens, which often so alarm the patient as to lead to a reform.

13. Some forms of alcoholic drinks are much more deleterious than others, especially those which contain a large proportion of fusel oil.

The author closes this chapter by advising that none but the best sort of liquors should be used.

But to the physician the latter part of the book is the most interesting, because it treats of dietetics in sickness. In this part of the work, our author is very full and explicit. A perusal of this part of the work alone will amply repay the practical physician for his outlay of money and time.

We advise our readers, if they wish to be instructed and edified, to procure this *Manual of Diet* at their earliest convenience.

SYPHILITIC GHOSTS.

A correspondent of the *British Medical Journal*, writing from Vienna, reports Professor Zeissl as saying at his clinic: "Some think, when a patient has for some time enjoyed immunity from manifestations of syphilis, that he is cured; but I tell you, gentlemen, that if a man contract syphilis he will die syphilitic, and at the day of judgment his ghost will have syphilis!"

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Original Communications.

WOUND OF ANKLE-JOINT.—TETANUS.

BY J. H. CARRIGER, M. D.

Read before the Knox County Section of East Tennessee Medical Society, July 8th, 1875.

MARCH 8, 1875.—Was called, at 6 p. m. to-day, to Mr. T. B——, who had been wounded, two hours previously, with a chopping-axe. Occupation, a farm laborer; of previous good health, aged 23 years. The wound, involving the ankle-joint, was five inches in length—in left leg—beginning over the internal edge of the external malleolus, chipping off a piece of the bone, and extending upwards between the tibia and fibula.

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The external malleolar artery, and the tendons of the extensor longus digitorum, and the extensor pollicis proprius, being divided. Patient faint from loss of blood.

Dressing—Ligature applied to malleolar artery; the wound cleansed, and dressed with sutures, adhesive strips, and roller bandage; cold water dressing ordered, and morph. sulph., gr. ss., given, and ordered to be repeated, if necessary.

March 12.—Patient has needed only one dose of the morphia. Wound united by the first intention; no pain, swelling, or suppuration. Sutures removed this morning, adhesive strips left on, and roller re-applied.

March 13.—At 11 p. m. was sent for in great haste, the messenger saying "Mr. B. is jerking all over, and his jaws are set." He had been getting bad five or six hours, and had been "jerking" for the last half hour, and his body bent back. Ordered Mr. B. to have one grain sulph. morph. immediately, and one-half grain every thirty minutes until relief, or signs of narcotism, supervened, and two grains hydg. chl. mit. to be given with every dose of the morph.

March 14, 8 a. m.—Mr. B. is moderately comfortable, but complains of a feeling of constriction in epigastrium, stiffness in the jaws, and occasional slight muscular twitches. He is spitting blood from a wound in the tongue, inflicted during the spasms of the past night. Commenced getting easier last night, after taking the third grain of the sulph. morph., and since then has taken one-half grain every hour. Is disposed to sleep some. He says that after the removal of the sutures, forty-eight hours since, he continued comfortable up to yesterday afternoon, when he began to feel an aching all over, and uncomfortable about the pit of the stomach. Then a jerking began in the wounded limb, which soon extended over his body, and put him, as he stated it, "in a thousand agonies."

It is unnecessary to follow the particulars of this case from day to day. The sulph. morph. was ordered to be continued in doses often enough to allay pain and spasm, and for the first four days the interval could scarcely ever be extended up to two hours without a recurrence of the spasms, which followed

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three different attempts during this period to lengthen the intervals between the doses.

The two-grain doses of hydg. chl. mit. were given every two hours for the first two days, or up to the morning of the 16th, when thirty grains citrate potass. were given every four hours to promote the scant urinary secretion, and action upon the bowels, which were, and had been, costive for four days. Glysters of salt and water, and turpentine, in gruel, were given for the same purpose. ℈j. to ʒss. sulph. quinia was given daily for the first week.

On the 17th, cal. ʒss., jalop ʒj., in three doses, at intervals of five hours, was given, and this failing to move the bowels, one drop of croton oil was administered four hours after the calomel and jalap were taken. In two hours this produced a very free evacuation, and apparently a great increase in the patient's sufferings.

On the 18th, the extract of calabar bean, in doses of two grains every two hours, was given for six hours, the sulph. morph. being withdrawn, and resulting in an increase of pain and suffering, and of tetanic spasms, which had been absent for some eight hours, when the calabar bean was begun. After the second dose of the calabar bean, another notable result was that Mr. B. complained of an intense burning pain in his stomach—something he had not complained of before, and from which he was only freed by withdrawing the calabar bean and returning to the use of the morphia.

The ligature came away on the tenth day from its application to the malleolar artery.

We neglected to note that the wound was torn open during the first violence of the spasms, and soon began suppurating freely.

On the 19th, evidences of inflammation of the ankle-joint became clearly manifest, and on the 25th a large abscess pointing behind the internal malleolus, was laid open, about five ounces of pus being discharged.

Brandy was now added to the quinine and morphia, and

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was continued up to the 31st, when the patient was able to get along with only one or two doses of the morphia per day.

On the 5th of April a burrowing abscess was discovered in the theca of the tendo achillis, extending up under the belly of the gastroc-nemius muscle, which was discharged by an opening just above the os calcis. This, as well as the opening into the ankle-joint, was kept open by the introduction, every few days, of a small silver probe, until finally, on the first of May, suppuration having ceased, they were allowed to close, and on the 7th of May the patient was discharged from under treatment. The ankle was anchylosed, but the patient was free from all pain, and able to go about on a crutch, bearing a little weight on the injured leg.

The shock to the human system, from an attack of tetanus, is a terrible one (no matter how short the continuance of the disease), and is only very slowly recovered from. This conclusion we deduce not only from the case of Mr. B., but also from observations made in a few other cases of the disease to which I will now briefly refer:

In a case of tetanus occurring in a laborer, 21 years of age, of previous good health, the disease resulting from a blow inflicted upon the left tarsus, with the poll of an axe, and making its onset ten hours after the infliction of the injury; and the tetanic spasms lasting only about eight hours. The patient presented, the next day, and for several subsequent days, very much such appearances as those of a man who is slowly recovering from the shock of a pernicious fever, but with scarcely an appreciable acceleration of pulse. The treatment in this case was by sulph. morph., and two-grain doses of hydg. chl. mit., with sulph. quinia for the first two days, when the hydg. chl. mit. was discontinued, and brandy added; and in which, after the first eight hours, there was no actual tetanus.

In two other cases, the one idiopathic, and the other from gunshot wound through the palm of the hand, witnessed by the author of this article, and treated as the cases already referred to, the actual tetanic spasms lasted, in the former ten,

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and in the latter fifteen hours. There was the same evidences of shock, and the same slowness of recuperation.

Tetanoidal spasms continued, in the case of Mr. B., for fifteen days; in the second case, for three days; in the case of idiopathic tetanus, for three days, and in the case last referred to, five days.

Another remark we design offering upon this subject is, that no dilatory or half-way measures will be of any avail in the treatment of this disease. In other words, that whatever measures of treatment we adopt must be prompt and decisive. If we give the salts of morphia for its relief, we are never to stop short of decided relief or narcotism; and we are never too speedily to relax our impressions when once we have gained an ascendancy over the disease.

Each of the four cases here presented have impressed upon the mind of the writer of this article, more and more, a doubt as to the propriety of administering active cathartics in this disease, their administration, in each of these cases, having been followed by a higher development of epigastric pain and spasms, and a general increase in the sufferings of the patient. This result of purgatives in these cases was so regular, that, at present, I would be disposed to let my patients remain costive, in this disease, for several days, rather than harass them again with purgatives, being convinced that the constipation is only a result of spasm interfering with peristaltic action, and that when the tetanic spasms are overcome, the bowels will of themselves act, or only require the use of the gentler means to produce action.

Amid the multitude of remedies which have been put forward as curative in this disease, the inexperienced may well hesitate as to his choice of a remedy; and when a man as distinguished as Dr. O'Bierne could witness as many as two hundred cases, and all of them fatal, he may well enter upon its treatment with trepidation. For the benefit of the inexperienced, we here append a summary of results, as obtained under different remedial agents:

Dr. Hennen says he was never able to cure an acute case.

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Dr. O. Curling, out of 45 cases, reported only nine recoveries.

Out of 23 cases occurring in the British Army in the Crimea, there were only two recoveries.

Dennue refers to 86 cases in the hospitals of Italy in 1859, of which six were cured.

Dr. Hammond reports nine cases and three recoveries.

Prof. Christopher Johnson reports two cases cured by hypodermic injection of conia, and two fatal under treatment by the same agent.

Klein found that prussic acid only produced an easier death.

Smith recommends colchicum, in Hayti, having had sixteen successful cases under its use. He does not report any unsuccessful.

South has known a variety of remedies used, and also cases left to nature, and the result was in all cases alike, fatal.

M. Verneuil, in 1868, had not seen a case of tetanus cured; since then he has used hydrate of chloral, and cured five cases.

Prof. Ore, of Bordeaux, proposes intra-venous injections of hydrate of chloral. So far, experimentation with this agent, thus used, is under condemnation of failure, and may reasonably be regarded as very hazardous.

An analysis of Dr. Yandell, of Louisville, of a report on tetanus made by Dr. R. O. Cowling, in which all cases occurring ten days after the receipt of injury are called chronic, and those previous to the tenth day acute, shows that, of 39 cases treated by the use of calabar bean, there were 39 per cent. of recoveries. One of the recoveries an acute case; five before the fourteenth day, and ten deaths from chronic tetanus.

Indian hemp, in 25 cases, gives 64 per cent. of recoveries, of which three were acute, and six recovered under fourteen days.

Chloroform, in 35 cases, relieved 76 per cent., nine of which were acute, and eight recovered before the fourteenth day; three chronic cases died, and two after the symptoms lasted fourteen days.

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Ether, in 15 cases, cured 60 per cent., five acute, and seven inside of fourteen days. One chronic case died.

Opium, in 165 cases, cured 57 per cent.; twenty-two acute; twenty-nine before the fourteenth day; twenty-six chronic cases were lost, and four after the disease continued fourteen days.

Tobacco, in 41 cases, cured 50 per cent.; six acute, and six before the fourteenth day; four chronic cases died, and one after fourteen days.

Quinine, in 15 cases, relieved 73 per cent.; one acute, and three before fourteen days; three chronic cases ended fatally, and after fourteen days.

Aconite, in 14 cases, relieved 8 per cent.; none acute, and none recovered before fourteen days; death in one chronic case.

Stimulants, in 33 cases, relieved 80 per cent.; four acute, six within fourteen days; six chronic cases died, and three after fourteen days.

Mercury, in 75 cases, relieved 57 per cent.; twelve before fourteen days; seventeen chronic cases were lost, and two after fourteen days.

Bleeding, in 58 cases, relieved 55 per cent.; nine acute, and ten before the fourteenth day; seven chronic cases were lost, and two after the fourteenth day.

Cold effusion, in 11 cases, relieved 73 per cent.; three acute, three before fourteen days; two chronic cases died.

Ice bags, in 9 cases, relieved 77 per cent.; one acute, two in less than fourteen days.

Amputation, in 17 cases, relieved 60 per cent.; four acute, four in less than fourteen days; three chronic cases died, and one after fourteen days.

Division of nerve, in 3 cases, relieved 75 per cent. (66 per cent. must have been intended); one acute, one before fourteen days; one chronic case died.

Purgatives, in 74 cases, relieved 66 per cent.; thirteen acute, twelve before fourteen days; ten chronic cases died, and three after fourteen days.

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Turpentine, in 16 cases, relieved 70 per cent.; six acute, and four before fourteen days; five chronic cases died, and two after fourteen days.

From these data Dr. Yandell concludes that when the disease occurs subsequent to the ninth day after the injury, recoveries are usually to be looked for; and that when the symptoms last fourteen days, recovery is the rule, and death the exception, apparently independent of the treatment; that chloroform has yielded the largest per centage of cures in acute tetanus; that the true test of a remedy for tetanus is influence upon the history of the disease. Does it cure cases in which the disease has set in previous to the ninth day? Does it fail in cases whose duration exceeds fourteen days? And that no agent tried by these tests has yet established its claims as a true remedy for tetanus, and with these views Dr. Hammond expresses himself as being in full accord.

A deduction we think equally legitimate with those of Dr. Yandell, drawn from this formidable array of remedies in this disease, is that most remedies, capable of powerfully impressing the human system, may occasionally be of service in this disease, and we believe we may safely add that the impressions, when once made, from these remedies, to be of any avail, must be sustained until the morbid production of nerve force, or the incoördination of nerve-power, is overcome; whether we elect to do this by chloroform or opium, by stimulants, by ice to the spine, or by other means, our impressions must be such in power as are capable of suspending the morbid chain of actions, and they must be continued with an unremitting watchful carefulness, in proportion to their potency, until nature, in her healthful way, can take control again.

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REPORT OF A CASE OF TETANUS.

BY FRED. H. STUMP, M. D., WHITE'S BEND, TENNESSEE.

MARCH 11, 1875.—Was called to see James Casey, aged 20, who had, three weeks previous to my visit, received a wound from an axe, reaching from within an inch of the external malleolus to within half an inch of the space between the great and second toes, passing entirely through the foot.

The patient, upon my arrival, presented the following symptoms: Great anxiety, a wild, restless expression, marked opisthotonos, and complained of pain in the back, neck, legs, and thighs; pulse 80; respiration 25, short, hurried, and gasping, during spasm; the spasm lasted from one to one and a half minutes, with an interval of five to ten minutes between the spasms; deglutition unimpaired during intermissions; could not protrude the tongue far out; skin hot and dry, but became wet with a clammy perspiration during the spasm. Thermometer registered 103° F., under the tongue. No pain in the wound.

At 9 a. m. gave the following prescription: Morph. sulph., gr. ss., and chloral hydrate, gr. xl., in sweetened water. As the spasm was about coming on, he swallowed the medicine with some difficulty.

At 9.15 a. m. repeated the same dose of morphia and chloral, made free incisions in the old wound, and let out about two ounces of dark, black-looking blood; covered the entire foot with blistering ointment, and applied bandage.

9.35 a. m.—Interval between spasms perceptibly increased, and the patient somewhat easier. Gave hypodermic injection of half a grain of morphia, and chloral by mouth.

9.45 a. m.—Patient says he feels much better. Gave him a little aromatic spirits of ammonia, as he appeared thirsty.

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9.57 a. m.—Repeated the dose of opium and chloral.

10 a. m.—Patient declares he feels better, but complains of a sensation as if something was crawling all through him, with considerable nervous tremor throughout the entire body.

10.5 a. m.—A short spasm came on, but lasted a moment only.

10.20 a. m.—Repeated the dose of morphia and chloral.

10.30 a. m.—Patient fell into an uneasy slumber. Temperature 102½° F.; pulse better; skin not so dry, and some *subsultus tendinum.*

10.45 a. m.—Patient restless, head thrown backward, and short spasms. Repeated the dose of morphia and chloral, with seven or eight grains of quinine.

11 a. m.—Patient sleeping well, and, I think, better in every respect. Left about twelve doses of morphia and chloral, with quinine, about three grains to the dose, with instructions to administer it often enough to keep patient quiet.

3.45 p. m.—Found patient asleep. Temperature 102° F. Aroused him, and, in answer to my questions, said he was better, but had uneasy sensations in his flesh. Had some trouble to keep him awake long enough to answer my questions. Left instructions to keep him asleep.

March 12, 8.25 a. m.—Found patient in profound sleep. Temperature 100° F.; pulse 64. On examining the injured foot, found a small blister just behind the external malleolus, about the size of a silver dime. The remainder of the foot looked as if it belonged to a dead rather than a living subject. Scarified the foot again, wet it thoroughly with tincture of cantharides, and replaced blistering ointment. Continued same treatment of morphia and chloral, with latter reduced to thirty grains; quinine in five-grain doses. Instruction to keep patient quiet.

March 12, p. m.—Found patient asleep, as before. Pulse good; temperature 99° F.; good blister over entire foot; for the first time, patient complained of pain in his foot. Used acid nitrate of mercury in fungous flesh in wound, and ordered the blister to be dressed with starch poultice, renewed

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every two hours. Morphia, chloral, and quinine, continued as before. Ordered food for patient, soft boiled eggs, with crackers crumbled in whisky toddy.

March 13, 10.30 a. m.—Found patient much worse. Had taken but three powders sinch the evening before; the blister on the foot had not been dressed, and the poultice was dry and hard; pulse was 80, and temperature 103½° F.; skin hot and dry; restless, anxious look, out of his eyes; foot swollen, and a sanguineous, thin fluid, running from the wound. Gave morphia, half a grain, and chloral forty, and about seven grains of quinine. Used acid nitrate mercury on granulations in wound, and dressed the blister with starch poultice, sprinkled with a weak solution of carbolic acid. Left usual medicines, with strict injunctions that they be administered properly.

March 14, 8 a. m.—Found patient much better, with a pulse of 64, and a temperature of 99½° F. Dressed the foot as before, and continued same treatment.

March 15, 9 a. m.—Found patient visibly improving. The wound showed some little suppuration. Dressed the foot with simple cerate, and continued treatment as before.

March 17.—Patient still improving; wound suppurating freely, and presenting a healthy appearance.

March 19.—Patient still improving. Removed two pieces of bone from the foot. Ordered tan oak-bark poultice to foot, as there was evidence of excessive suppuration. Doses of morphia and chloral still continued.

March 22.—Patient improving in every respect.

March 26.—Patient convalescing and wound healing rapidly.

April 1.—The patient almost well, and the wound almost cicatrized. Patient discharged.

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MALARIA.

BY S. P. CRAWFORD, A.M. M.D., STOCKTON, CALIFORNIA.

PROF. W. K. BOWLING—*Dear Doctor:* I see, in the May number of the JOURNAL, a review of Dr. Lindsley's paper on *Epidemics and Sanitary Reform*, in which you reiterate a doctrine long ago put forth by yourself, that "malaria is the result of intense solar heat upon watery fluids so imprisoned as to prevent rapid evaporation." I desire to present a few facts corroborating your theory.

I have now had an experience of six years' pretty active practice in the San Joaquin Valley. During that time, more than three-fourths of all the fevers treated by me have been of the intermittent or remittent type. I have treated but twenty-five cases of typhoid fever during that time. Malarial fevers are the prevailing diseases during summer and autumn. Our winters are generally free from fevers, and usually the healthiest season of the year.

This valley is a level plain, three hundred miles long, and from thirty to forty miles broad, declining gently towards the west. There is no timber worth the name; one may ride for miles, and not see a bush or tree.

The condition of sun, earth, and water, is this: Thermometer ranges, in summer, from 100° to 115°, in this valley. In July and August, it is almost daily, at 2 o'clock p. m., 110° in my office. There are no living springs here, and but few rivers, whose sources and tributaries are high up in the Sierra Nevada mountains. Notwithstanding we have no springs or running rivulets, yet water is abundant for all practical purposes, and of excellent quality, just beneath the surface. The ground is moist in the dryest summer at a depth of two or three feet. At a depth of six or seven feet, water stands, and

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can be drawn by digging or boring to that depth. Trees, when planted, have to be irrigated for a year or two, when their roots reach water, after which they need no farther attention.

Our usual method of getting water is, to bore with a two-inch auger to the depth of twenty or thirty feet, run down a pipe, attach a pump, and we have an abundance of cool transparent water that no amount of pumping can exhaust.

There is not a particle of decayed vegetable matter anywhere during the season our fevers prevail. Straw and manure must lie in the barn-yards four or five years before it is sufficiently decayed for fertilizing purposes.

The carcasses of dead animals, during the summer, do not decay, but dry up, and we have no carrion birds here. Our common method of keeping fresh meat in summer is to hang it in the shade in the open air, and it will dry before it decays.

Thus, you see, we have no moisture during the summer, and hence there is no decay.

We have an intense sun pouring upon the earth, uninterrupted by a cloud, from six to nine months in the year. Between this sun and the water beneath, there is a stratum of two or three feet of earth.

The bottoms of Lick Creek, Greene County, Tennessee, were for many years infested with malarial fever, but for some years past there has been no malarial fever, owing to better cultivation and drainage. In 1836, I believe, the Legislature made an appropriation to have the stream cleared of obstructions for the purposes of navigation. In the spring, a large number of trees were felled along the banks of the stream, letting in the full force of the summer's sun. In the fall, an unusual dry one, the fever raged in its most deadly form, and hundreds died of congestive fever. The season was ever after known as "the sickly season."

I may say, in conclusion, that I keep my own medicines, and that I have bought and used ninety-one ounces of quinine since I have been here. You may think I have quinine on the brain.

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[NOTE.—Except as to fertility, the country described by Dr. Crawford (by the way, one of the first observers of this country,) is very much like the regions described by Sir William Furguson as provokingly pestiferous from chill-poison—level, dry, parched, with pure water just beneath the surface; plains of the Guadiana and the Tagus, Bosterout, &c. Dr. Crawford, with regard to this theory, has supplied the *experimentum crucis*—he has settled the hash.—W. K. B.]

CLINICS HELD DURING THE SESSION 1874–5, IN THE MEDICAL DEPARTMENT OF NASHVILLE AND VANDERBILT UNIVERSITIES.

BY PROF. PAUL F. EVE, M. D., NASHVILLE, TENNESSEE.

REPORTED BY DUNCAN EVE, M.D.

CASE I.—EXCISION SCIRRHOUS MAMMA.

Mrs. H——, aged 50, strong and active, called at our office to consult in reference to a tumor, as she said, of her breast; finding it to be scirrhous, the glands of the axilla not being affected, and the date of the commencement of the disease being somewhat recent, it was removed before the class, October 7th, 1874. The wound healed by first intention, and there has been no unpleasant symptom since—now nearly eleven months after its removal.

CASE II.—CATARACT IN BOTH EYES.

An old negro man, familiarly known in this city as "the old

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water-witch," applied, October 9th, for operations upon his eyes. He had been suffering for years with capsulo-lenticular cataract of both eyes. Thinking something might be done to relieve one of them, the operation by absorption was attempted, with the hope that part of the opacity might be removed, and temporary sight regained. Much to the surprise of operator and students, "the old water-witch" came before us some two months afterwards, and could distinguish every face in the lecture-room, something he could not have done before in years.

CASE III.—FRACTURE AT THE ELBOW-JOINT.

Exhibited a case of fracture of the external condyle of the humerus, and applied Roe's angular splint, October 9th. Case made a good recovery, the arm being as useful as ever.

CASE IV.—RESULT OF AMPUTATED ARM.

Exhibited a negro boy, October 9th, upon whom an amputation of his arm near the shoulder-joint had been performed by the Reporter some two months previously, leaving an excellent stump for an artificial limb.

CASE V.—EXSTROPHY OF BLADDER, ETC.

Mr. W——, of Polk County, East Tennessee, brought his son, aged 6, having congenital exstrophy of the bladder, hypospadias, &c., to Nashville, October 12th, in search of relief. Being so unusual and serious a deformity, the case was taken before the class, and a consultation held with ten or more physicians. They decided *not* then to attempt an operation, but recommended, for the present, a rubber-bag to catch the urine, which was constantly escaping. The father returned home with the patient, much disheartened.

CASE VI.—HYPOSPADIAS.

This was in an infant only two months old, who was brought to the College by Dr. Currey, of this city, October 14th. The child being so young, of course no operation was performed.

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CASE VII.—DISEASED KNEE-JOINT.

A little boy was kindly sent by Dr. McMurray, of this city, to the clinic, October 16th, with what is called white-swelling. A better hygiene was insisted upon—iron, quinine, and cod-liver oil, recommended, as the patient was of a strumous diathesis, and gentle friction to the limb with warm camphorated liniment prescribed.

CASE VIII.—CHRONIC ULCER.

A cook at the Maxwell House was exhibited October 19th, who had been suffering for years with an indolent ulcer on the internal malleolus. Basilicon ointment, with carbolic acid, and bandaging the limb every day, was recommended. In two weeks the patient came again before the class, the ulcer having granulated, and nearly cicatrized over its entire surface.

CASE IX.—HERNIA.

Mr. L——, of Alabama, applied October 21st, with direct inguinal hernia from infancy. On the 23rd, the operation of wiring the external abdominal ring was performed. In three weeks afterwards he came before the class, entirely relieved. We have heard from Mr. L—— once since he returned home, much delighted with the operation performed. The wire was not removed, but left to become encysted.

CASE X.—PTERYGIUM.

Mr. L——, of Kentucky, was sent down by his family physician, with pterygium of both eyes. The operation was performed on one of them October 26th; that portion of the wing nearest the cornea was detached first, and dissected off nearly to the outer angle, being external to the cornea, where it was surrounded by a ligature, and fastened by means of plaster to the forehead, so as to remain, and sloughed off, while the conjunctiva was closed by fine sutures over the vacant space.

CASE XI.—ENTROPION OF BOTH EYE-LIDS.

Mr. R——, of Alabama, had been suffering for years with eutropion of both upper eye-lids. October 30th, the ordinary

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operation was performed, an elliptical piece of the lid being removed from each, and closed by fine sutures.

CASE XII.—REVULSION OF A TOE-NAIL.

This was the great toe of a negro girl, who applied at the College November 2nd. The operation was performed by splitting the nail in its middle, and each half removed separately. In five days afterwards she was able to walk.

CASE XIII.—CONGENITAL CATARACT.

Mr. I——, of Robertson County, Tennessee, applied with his child, having congenital cataract in one eye. The operation, by absorption, was performed November 4th, before the class. Father and child returned home, in four days, with a prospect of an improved eye.

CASE XIV.—HYDROCELE.

Operated on an old negro man of about 70, November 6th, for hydrocele. He had a very large scrotal tumor, containing about two quarts of fluid, which was drawn off. A seton was next passed through the tunica vaginalis, to induce suppuration. He made a rapid recovery.

CASE XV.—AMPUTATION.

The thumb of a railroad conductor was amputated at the carpo-metacarpal articulation, November 13th. Wound healed by first intention.

CASE XVI.—RECENT STAB WOUNDS.

Dressed wounds of a negro boy, November 18th, who was stabbed badly in the side and arm. They suppurated, and were a long time healing.

CASE XVII.—AMPUTATION BY ELASTIC LIGATURE.

Exhibited a negro boy, whose thumb was nearly cut off, and applied an elastic ligature to complete the amputation, the end having mortified. It was a very slow, but neat process, taking about ten days. It is certainly a valuable agent in some cases. The result was happy in the above one.

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CASE XVIII.—BURN.

Exhibited a case, November 20th, scalded by a boiler of an engine. Prescribed lime-water and oil to parts involved.

CASE XIX.—CARCINOMA OF THE MAMMA.

Removed a scirrhous breast, November 23rd, from a large and very fat negro woman. The operation was similar to that performed on Case I. The patient was about the same age, but, being a negro, did not make so good and rapid a recovery.

CASE XX.—FRACTURED FORE-ARM.

Applied splints to fractured arm (both bones broken in middle third) of Mr. H——'s son, of this city, November 27th.

CASE XXI.—TALIPES.

Applied a club-foot shoe to Mr. N——'s little girl, of this city, having talipes varus, November 27th.

CASE XXII.—IMMOVABLE APPARATUS TO CONTUSED JOINT.

Applied plaster-paris dressing to an injured ankle of a rail-road hand, November 30th. Removed it before the class a week afterwards, and patient walked across the floor readily, and without complaint.

CASE XXIII.—CHRONIC ULCER.

Mr. J——, of West Tennessee, had an indolent ulcer on the posterior aspect of his leg. Applied December 4th. The same treatment as in Case viii.

CASE XXIV.—CANCRUM ORIS.

Mrs. H——, of Edgefield, came to our office December 7th, with, apparently, a malignant disease. In consultation it was pronounced cancrum oris. A dentist was employed to extract most of her teeth, and an operation was performed, December 9th, before the class. This consisted in enlarging the mouth, at its commissures, and taking out part of the diseased structure. She was much improved by the operation.

CASE XXV.—STAPHYLOMA.

Exhibited a negro girl, with a large staphyloma, December 11th. Parents declined to have an operation performed.

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CASE XXVI.—FRACTURED ARM.

Dressed the arm of Mr. M——, of this city, December 16th. Broken in the upper third of the humerus. Applied angular splints to arm and fore-arm, bent at about a right angle.

CASE XXVII.—CARCINOMA OF THE BREAST.

A colored woman, with a scirrhous mamma, sent by Dr. Shannon, of Nolensville, was operated on before the class January 11th, 1875. This was a very unfavorable case, being of an immense size, and ulcerated in two different places, with retracted nipple, and enlarged glands in the axilla. Nevertheless, the wounds healed kindly under the use of carbolic acid.

CASE XXVIII.—EPITHELIOMA.

Mr. E——, of West Tennessee, applied, through his representative, Mr. Orr (then at the capitol), with epithelioma on the dorsal surface of his hand. He was taken to the College January 18th. In consequence of the patient's age and health no operation was attempted. Cauterization, with carbolic acid, every three or four days until the character was changed, and hygiene, diet, &c., were recommended. Have heard since that the diseased growth had nearly disappeared.

CASE XXIX.

URETHRAL FISTULA RELIEVED BY GLISSEMENT PROCESS.

Mr. M——, of this city, had been troubled very much, for years, with a fistula in the urethra, just anterior to the scrotum, the urine dribbling through the opening whenever he urinated. An operation was performed January 18th. It consisted in sliding a portion of the scrotum over the opening. After three or four attempts, success crowned our efforts.

CASE XXX.—RANULA.

A colored woman, with a very large ranula, came before the class January 29th. The fluid was evacuated, and frequent injections of a weak solution of tincture of iodine constituted the after treatment.

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CASE XXXI.

ATTEMPT TO MAKE AN ARTIFICIAL HIP-JOINT, BY PARTON'S OPERATION.

Mr. A——, of West Tennessee, came to this city for relief January 27th. After a careful examination of his case, a consultation was held. He had been thrown from a mule twelve years ago, and the injury resulted in true anchylosis of the right hip-joint, with cellulitis of the surrounding soft parts. Parton's operation for an artificial joint at the trochanters was attempted, the bone divided, and the limb, which had been flexed upon the pelvis, straightened, February 1st. For a time there was good prospect of success, when the health of the patient (living in the Mississippi bottom) gave way, and the treatment of the limb had to be abandoned to save his life. Mr. A—— returned home, with his leg a little straighter, about the first of April.

CASE XXXII.—ENLARGED SHOULDER-JOINT.

Mr. W——, of West Tennessee, came to our office February 10th. He presented an enlarged shoulder-joint for treatment. The case being one of much interest, was taken to the College for consultation. An exploratory incision was recommended, but the patient not consenting to this, was told to use comp. iodine ointment upon the growth, and if it continued to enlarge, to return to Nashville, which he did in June last—the enlargement now measuring twenty-five inches in circumference. An amputation above the shoulder-joint being the only thing that promised relief, (and that not very promising), was attempted at his home June 25th, but terminated fatally, as was published in the *American Medical Weekly*, of July 17th, 1875, and copied into this journal.

CASE XXXIII.

DOUBLE SIMULTANEOUS AMPUTATION OF THE FEET.

A negro boy, having stolen an express wagon and horse in one of our neighboring towns, drove to this city in a big snow storm, and, after his arrival here, was arrested and placed in jail. Some two or three days afterwards, the Physician of the prison noticed his feet in a gangrenous condition, and at once

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commenced treatment for the same, but it was all to no purpose. On the 19th of February he was brought before the class, and amputation of both feet recommended. On the 25th Perigoff's amputation of the right foot, and Symes' of the left one, were performed simultaneously. The heel of the left foot sloughed, but finally healed by granulation. He is still confined in our jail, poor fellow, and will certainly be compelled, for the future, to go it slowly in this world.

SURGICAL CLINIC OF PROF. W. T. BRIGGS, WINTER OF 1874–75.

REPORTED BY C. S. BRIGGS, A. M. M. D.

OSTEO-SARCOMA OF LOWER JAW.

GENTLEMEN—The first patient I present to you this morning is W——, colored, aged 52, a small farmer and preacher, who comes from our county of Putnam for advice and treatment. He has always enjoyed perfect freedom from disease until within the last three years. About that time he discovered a small nodule on the inner part of the right side of the lower jaw, which was hard, immovable, not tender to the touch, nor painful. It has grown rapidly, until now, as you see, it is as large as the closed hand; it is of an oblong shape, and occupies both sides of the jaw bone. It is irregularly nodulated, elastic in some parts, in others very inelastic; not tender upon pressure. On the outside the skin is intact, and apparently but little diseased; but on the inner side of the jaw ulceration had set in at several points, and fungus granulations have sprouted up, accompanied with an unpleasant, ichorous dis-

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charge. By passing into the central part of the tumor a small exploring needle, it encounters spiculæ of bone; so it does when passed into other parts of the mass. The patient is not much reduced, for, although spare and thin, he says he never weighed much more than he does at present. His appetite is pretty fair, and his sleep not much disturbed. His principal inconvenience is in talking—the tumor interfering very much with articulation—and he is anxious to be relieved of the diseased mass, that he may preach to his colored brethren.

From the great firmness of the mass, together with its oblong shape, and smooth or smoothly-nodulated surface, but more especially from the detection of hundreds of spiculæ of bone in its substance, I conclude that it is a case of osteo-sarcoma.

Osteo-sarcoma may form on the outer surface or in the interior of bones. In the former case it is denominated periosteal, and in the latter central.

In the case before us, the growth seems to have taken place from the outer surface of the bone. Such tumors often attain large size; most generally they are malignant, often returning after removal, and sooner or later infecting the general system.

The only alternative, in this poor man's case, gentlemen, is the removal of the portion of the lower jaw upon which the tumor is situated. The part of the jaw to be removed extends from between the incisor and the canine tooth of the right side to the right temporo-maxillary articulation.

It gives me pleasure to tell you that the great honor of being the first surgeon to attempt the amputation of the lower jaw belongs to an American, and a native of our own good State, Dr. W. H. Deaderick, of Athens; since then it has been often done by surgeons in all parts of the civilized world—not only parts of the jaw having been removed, but, in many instances, the removal of the entire jaw bone has been effected.

When the patient shall have been placed on the table, in the recumbent position, and brought fully under the influence of ether, I shall make an incision from the zygomatic process a short distance in front of the ear down to the base of the jaw,

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thence around to the symphisis menti, under the lower border of the bone; then pass up, vertically, to the free border of the lip. This large flap is to be rapidly dissected off from the tumor, taking care to keep as close to it as possible, without leaving any diseased structure behind. Any large vessels that may have been opened having been attended to, the mucous membrane on the inner side of the bone is to be detached, and the bone sawn through at the point selected; then, the bone having been grasped, is drawn outward, and the soft parts detached from its inner side, not forgetting that we should keep as close to the tumor as is consistent with the removal of all diseased tissues.

In separating these parts from the tumor and bone, we avoid the point and edge of the knife as much as possible, using the handle more freely.

The body and angle of the jaw having been detached from their connections, we proceed to separate the soft parts from the coronoid process, which is not always an easy task; and then, drawing the portion of jaw outward, the knife is passed close to the bone, over the condyloid process, into the articulation, which is then freely opened, and the tumor completely severed from its attachments. This last manœuvre is a most important one, from the fact of the close and intimate relations the internal maxillary artery holds to the condyle.

All hemorrhage having been checked by appropriate measures, which you understand, the flap will be brought into position, and maintained by the silver suture, which I always use. The resulting deformity will be much less than any one would imagine.

[The operation was then performed as described; the half of the jaw upon which was seated the tumor was soon exsected. Very little hemorrhage followed, because the common carotid was thoroughly compressed during the entire operation. The flap was returned to its place, and kept in situ by six or eight sutures. Cold-water dressing was ordered, and the patient carried to his room. In two weeks he was again brought before the class, with the wound entirely healed, and with com-

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paratively little deformity. The tumor proved to be a beautiful specimen of osteo-sarcoma, a section displaying a number of bony spiculæ, very slender and long, between which was a gelatino-cartilaginous deposit.]

FIBRO-CELLULAR TUMOR IN PAROTID REGION.

I next present to you the negro man, Tom ———, kindly brought to the College for operation, by Dr. Bradford, of a neighboring village. The patient is a strong, healthy farm hand, about fifty years of age. Some four or five years ago, he noticed a small tumor, about the size of an ordinary marble, occupying the region between the angle of the jaw and the mastoid process. It had attained that size before attracting his attention, and, up to the present time, had caused him no pain whatever. The outgrowth has now become very large, being about the size of a fœtal head, producing such a deformity and so much distress that he wishes to be rid of it. The tumor completely fills the space between the angle of the jaw and the mastoid process, pushes the ear up, laps over the superior maxillary into the face, and extends down into the superior carotid triangle. It is irregularly nodulated, hard, and but slightly movable. It is not tender upon pressure, nor painful. The skin covering the part is somewhat thickened, but not otherwise affected. There is no involvement of the neighboring glands.

I have frequently told you that it was impossible to tell the exact histological characters of a tumor; one who attempts to do so will often be mistaken; but we may generally tell whether it belongs to the benignant or malignant class. I conclude that the tumor in this case is benign; first, because of the slowness of its growth, as compared with the rapid onset and rapidly fatal termination of malignant tumors, which declares in favor of its benignant character. Secondly, its long continuance without showing any tendency to ulcerate, contra-

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distinguishes it from malignant, the latter rarely existing for a longer time than two or three years without putting on destructive ulceration. Thirdly, the lymphatic glands, near the site of malignant tumors, after a longer or a shorter time, become involved—enlarge and ulcerate; but in this instance there are no complications of the glands whatever. Fourthly, should sections of this tumor be subjected to microscopical examination, it would be found to consist of structure essentially similar to normal structures of the body—in technical terms, homologous; whereas, should it be malignant, and subjected to the same test, it would show a structure entirely foreign—heterologous.

To recapitulate, then, this growth possesses all the features of an innocent tumor—viz., slowness of growth, no tendency to ulcerate, similarity of structure, and absence of complication of neighboring glands.

If I might venture to guess its histological nature, I would say that it was fibro-cellular.

Nothing but a removal by the knife will suffice in this case, and I will, as soon as the patient is brought under the anæsthetic influence of ether, proceed to do so as follows: I shall make a curvelinear incision with the convexity toward the face, about four or five inches in length. Turning back the flap, I shall use the handle of my scalpel and my fingers, and enucleate or dissect the tumor from its bed. The wound I shall close with the silver-wire suture.

[The operation was performed as indicated above. The tumor was so closely adherent to the surrounding structures that some trouble was experienced in removing it. A portion of the growth had burrowed beneath the angle of the jaw, and in the attempts to remove it, the internal maxillary artery was wounded, and secured only with much difficulty on account of its situation. The parotid gland had been encroached upon, and compressed as flat as a cake. Branches of *portio dura* of the seventh pair were divided, as was shown by the partial paralysis following. The wound was brought together with silver wire, after leaving it open a while to see that there was no

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hemorrhage. After the effects of the ether wore off, the patient walked to his boarding-place, and recovered entirely from the effects of the operation in the course of two weeks.]

[TO BE CONTINUED IN THE NEXT NUMBER.]

"DEATH UNDER CHLOROFORM."

CARD FROM J. R. BUIST, M. D.

Editors "Nashville Journal of Medicine and Surgery":

I deeply regret that my record of a "death under chloroform" should have given Dr. M. C. Currey such offence, and been the occasion of a hasty communication from him in your July number.

Dr. Currey entirely misunderstood the object and scope of placing the unfortunate case, occurring in my practice, before the profession. It never was printed for "the public mind," but in the interest of science, and for the guidance of medical men, I published the case in a medical journal. In doing so, I attempted to give all the *facts* in the premises, without drawing any inferences or making any insinuations. I little thought I was doing Dr. Currey an injury, and certainly had no intention of reflecting upon one for whom I felt the greatest friendship. I am exceedingly sorry that my language seems susceptible of the construction Dr. C. places upon it, and hope this will be a correction of such misapprehension.

J. R. BUIST.

NASHVILLE, July 30, 1875.

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Selected Articles.

NATURAL HISTORY OF ACUTE DYSENTERY.

A Contribution toward the Natural History of Acute Dysentery; consisting of a Report of ten Cases observed without Medicinal Treatment.

BY AUSTIN FLINT, M. D.,

Professor of the Principles and Practice of Medicine, and of Clinical Medicine, in the Bellevue Hospital Medical College, New York.

My object in the study of the cases of dysentery to be reported in this article, is the same which led me, nearly thirteen years ago, to observe cases of acute articular rheumatism, a report of which appeared in this journal.* I may claim for that report that it contained sufficient evidence of acute articular rheumatism being a self-limited disease, and that the duration of the disease is not much abridged by the various methods of treatment which have at different periods been in vogue.

Inasmuch as I entered on the study of the natural history of rheumatism deliberately, feeling warranted in so doing by reasons given in connection with my report, it is proper to add that my cases antedated those which, for a similar object, were treated with mint-water in Guy's Hospital, London. This

* A Contribution towards the Natural History of Articular Rheumatism, consisting of a Report of Thirteen Cases, treated solely with Palliative Measures. American Journal of the Medical Sciences, July, 1863.

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fact I certainly should not mention, had there been any reference to my article in either of three successive reports of cases so treated at the hospital just named. So far as I know, my reported cases were the first observed with express reference to the natural history of the disease, that is, the history as obtained by the study of cases in which no active therapeutical measures were employed.

In 1853, I published a clinical report on Dysentery, based on an analysis of 49 cases.* These cases were analyzed with regard to occupation, season and year, previous health, access, symptoms referable to the different anatomical systems, duration, mode of dying, relapses, fatality, supposed causative agencies, subsequent health, recurrence of the disease, and the apparent effects of remedies. Different methods of treatment were employed in these cases. Afterwards the report was published, with supplementary remarks on the causation, pathology, and management of the disease, making a *brochure* of ninety pages. This work was never circulated, the entire edition having been destroyed by fire.

With regard to fatality, I had imperfect notes of 11 cases, in addition to the 49 of which the histories were more complete; and of the whole number of cases, namely, 60, the number of deaths were 13. This rate of mortality, however, did not fairly represent the proportion of fatal cases in my experience, for I had treated a certain number of cases ending in recovery, of which I did not preserve notes, whereas I had noted all my fatal cases. The sixty cases were recorded during a period of thirteen years. All the fatal cases occurred during the last four years of this period, and a majority of the cases, namely, 48, were recorded during these four years. During the preceding nine years, the disease was extremely rare in the place where I then resided (Buffalo), and all the cases were sporadic. The greater number of cases, and the occurrence of fatal cases during the last four years, were attributable to an

* Buffalo Medical Journal, numbers for July, August, September, and October, 1853.

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epidemic influence. It may be assumed that in a salubrious northern climate, sporadic dysentery rarely ends fatally after infantile life.

The duration of the disease, in the cases ending in recovery, varied from one day to twenty-one days. It was one day in a single case, and under five days in another case. It was twenty-one days in a single case, and the next longest duration was sixteen days. The mean duration was nine and five-sixth days.

There was a striking disparity, in the duration of cases ending in recovery, between hospital cases and the cases in private practice. Of thirteen, in this group of cases, treated in hospital, the mean duration was just thirteen days; of seventeen cases in private practice, the mean duration was a fraction over seven days. With reference to this disparity, I quote from my report as follows:

"The explanation of this difference, which suggests itself, is, that the hospital patients were generally admitted after the disease had existed for some time, frequently without having received any treatment, and sometimes perhaps having been injudiciously treated. That the condition of the hospital patients, after admission, was even better than that of the patients in private practice, is rendered probable by the fact that the ratio of fatality among the latter was considerably greater. Of 27 patients in private practice, 8 died; while of 22 hospital cases, in only 3 was the disease fatal. It is a curious fact that the duration of the disease should be nearly twice as great in the hospital cases, and, at the same time, the mortality less than one-half in these cases contrasted with those occurring in private practice!"

In the fatal cases the shortest duration was 6 days, and the longest 19 days. The mean duration was a fraction over nine days. The duration in both the fatal and not fatal cases was reckoned from the date when the diarrhœa began, and not from the first dysenteric dejection.

In no case did the disease end in a persistent chronic affection. It may be assumed that, in a salubrious climate, in a northern latitude, there is no tendency in dysentery to eventuate in a chronic affection, which is a not infrequent sequel in tropical climates. The recovery in the majority of cases was

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rapid as well as complete. In no instance was there a relapse. These facts were considered to denote that "the disease belongs in the category with those which involve certain processes (zymotic) within the organism, reproduced with difficulty after they are completed."

Another interesting fact pointing to this conclusion was developed by my analysis. In sixteen cases the patients had either been under my observation, or definite information was obtained respecting their subsequent health, for periods varying from one year to thirteen years, and not one of these fifteen patients had had a second attack of dysentery. Quoting from my report:

"This result is rendered more striking by the fact that, exclusive of the case in which the date of the disease was but a year since, all the patients have been, for several years past, within the sphere of an epidemic influence —the disease, as already stated, having prevailed more or less as an epidemic in this city, in the autumnal months, for the last four years. I can also call to mind several cases of dysentery, occurring at least four years since, the histories of which were not taken, the patients, in the mean time, being under observation. In none of these instances has the disease been twice experienced. It would seem that an attack of dysentery does not exert an unfavorable influence on the organism; that patients are not rendered thereby prone to any particular disease, but, on the other hand, enjoy good health. It would also seem that patients are not liable to a repetition of the disease."

These conclusions, it is to be borne in mind, relate to the disease in a salubrious, temperate climate.

With respect to etiology, I adduced, in the supplement to my report, considerations which seemed to me to constitute logical proof that the disease is due to a special or specific cause—that is, to an *infection*, in the sense in which this term is used by late German writers. Simply enumerating these considerations, they are as follows:

1. The absence of obvious causes. The analysis of my cases showed that the disease was not attributable to imprudences in diet, exposure, or any other apparent causes.

2. The limitation of its prevalence to certain places and periods.

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3. Its restriction to a particular season.

4. Exemption, to a certain extent, from subsequent recurrence of the disease.

5. The disease affecting in preference persons of good health and constitution.

My analysis showed this last statement to be correct, although it is generally stated by writers that persons of feeble health and constitution are more likely to become affected.

The treatment in my cases varied. Laxatives, generally castor oil, were prescribed in a small number of cases. Calomel with opium was employed in twenty cases, and it was given, uncombined with opium, in three cases. Opium was employed without calomel in twenty-six cases. Astringents were given in a small proportion of cases, and, in several cases, topical applications, by means of enemas, were tried. The remedies used in the latter mode were the acetate of lead, tannic acid, and the nitrate of silver. The cases were analyzed with care, in order to judge of the immediate effects of the different measures, together with their influence on the termination and duration of the disease.

A comparison, as regards the duration, of the cases in which calomel and opium were given, with the cases treated with opium alone, showed clearly that the calomel had no curative effect, the duration in the two groups of cases being very nearly the same. The supplementary remarks on the treatment concluded with the following paragraph:

"To recapitulate, in a few words, some of the more important of the practical points involved in the foregoing considerations, rational principles, and what light is afforded by experimental knowledge, lead us to regard opium as by far the most valuable of the remedies employed in the management of dysentery; but to secure the full efficiency of this remedy, in this disease, it must be given in doses sufficient to fulfil the indications which it is designed to meet, adapting quantity and modes of administration to the peculiarities of individual cases, and at the same time observing due precautions in its use. Blood-letting, it is probable, is useful in some instances, but it is to be employed with discrimination, and cautiously graduated by the circumstances which indicate it. Purgatives, especially saline, are frequently important by way of preparation for the good effect to be expected from the use of opium. Astringents, and the numerous reme-

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dies supposed to be useful in this disease, may be serviceable to a greater or less extent: but, relatively, they hold the position of auxiliary measures, and their employment should not detract from reliance on those which are more efficient. Finally, after employing means to abate the intensity of the disease, and dispose to its resolution, the chief object of the management in cases which resist these means is to sustain the vital forces with the hope of prolonging life, and developing power to carry on and complete the processes of restoration."

Dysentery is one of the diseases considered by physicians now, as hitherto, to claim therapeutic interference more or less active. The following paragraph, from the article on this disease in the *Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques*, may be quoted as a correct expression of medical opinion in this regard:

"The treatment of dysentery has undergone numerous changes in accordance with the doctrinal ideas which have been entertained respecting the nature of the disease; but, irrespective of these, physicians have been unanimous in repudiating an expectant treatment, and in proposing curative measures more or less energetic."

It was formerly treated pretty actively by blood-letting and other of the so-called antiphlogistic measures. Emetics have been much used, and are extolled in the article on this disease in *Ziemssen's Cyclopœdia*. Cathartics have been, and still are, in vogue. Mercury has only within the past few years fallen into disuse, and some practitioners still cling to it. Various astringent remedies have been considered curative. Narcotics, especially opium, have of late been relied upon by many. Ipecacuanha, in large and small doses, has been, and still is, in repute with many; and some have thought that topical treatment, by enemas, was often effective.

In deciding to observe some cases without any active treatment, I was actuated by the argument that if a disease have been treated with apparent success by numerous different and opposite measures, it is fair to infer an intrinsic tendency to recovery and self-limitation. Hence, I concluded that it would be proper to study the natural history of dysentery. On the importance of obtaining knowledge of the natural history of all diseases I need not enlarge, since it is obvious that, in or-

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der to judge of the curative influence of treatment, this knowledge is indispensable. I resolved, therefore, in 1872, to collect the histories of some cases of dysentery, in which the disease was allowed to pursue its course unaffected by any treatment. I have collected, since that date, the histories of ten cases. These have not been selected cases, as perhaps the small number might suggest. That the number is so few is thus explained: The cases admitted into hospital, of this disease, are not numerous. They are admitted chiefly in the months of July, August, and September. Of the number of cases admitted in my service, many were not acceptable on account of treatment having been employed prior to admission into hospital. Moreover, I accepted only cases in which patients had been attacked with the disease while in fair health, and cases in which this disease existed without any existing complication.

It may, perhaps, appear to some that ten cases are too few to furnish data adequate to determine the natural history of a disease. But to determine the intrinsic tendency of a disease to recovery, and the fact of self-limitation, a large number of cases is not requisite; and after having collected histories enough to settle these points, it might be improper to persist longer in this plan of study; for it does by no means follow, because a disease is shown to end favorably of its own accord, after a certain duration, that no treatment is indicated. To render a disease abortive, to shorten its duration, to prevent complications, and to palliate symptoms, are not any the less objects for clinical study; and our knowledge of the natural history of a disease is especially useful in enabling us to prosecute clinical study with reference to these objects. To illustrate this view by reference to acute articular rheumatism: this disease has been shown to pursue, in a large proportion of cases, a favorable course, and to be self-limited. This knowledge does not conflict with the fact that a full alkaline treatment has a certain amount of influence in preventing cardiac complications, and in shortening the duration of the disease; nor does it diminish the importance of reducing excessive hy-

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perpyrexia in some cases as a means of saving life. Believing these measures of treatment to be useful in the treatment of acute articular rheumatism, I should not feel justified in continuing to observe cases without treatment, since a sufficient number to determine the natural history of the disease has been already observed.

I proceed now to give a succinct account of the ten cases of dysentery, the histories of which I have collected.*

Case 1. (Dr. M. B. Early, House Physician).—Catherine O'B——, aged 21, domestic, was admitted August 22, 1872. Two weeks before her admission she had had, for two days, diarrhœa, with tormina and tenesmus, but the evacuations were not dysenteric. Five days before admission she was again seized with diarrhœa, and soon afterward the evacuations became small, frequent, and consisted chiefly of bloody mucus, accompanied with tenesmus. On the day of her admission, the dysenteric evacuations occurred every few minutes; she had no appetite; she complained of weakness; the tongue was dry and coated; the skin was warm and moist, and there was tenderness over the colon, especially at the site of the sigmoid flexure. In order to secure the moral effect of medicinal treatment, the following was prescribed: Tinct. cinchonæ comp. ʒij., aquæ ℥ij. Two drachms to be given every four hours. This was used as the *placeboic* remedy in all the cases.

Aug. 23—Pulse 132; respiration 32; temperature (always in the axilla) 102½°. Frequent evacuations had continued, with tenesmus and pain. Tongue dry and coated; much thirst. Skin warm and moist. Very little sleep on account of pain. Pain in site of colon, and considerable tenderness, especially over the sigmoid flexure.

25th.—Pulse 120, and temperature 99½°, at a. m. The dysenteric evacuations had been, and still were, frequent, with considerable tormina and tenesmus. Tongue thickly coated, and moist. Much thirst, anorexia. No vomiting nor nausea. Skin moist and warm. Passed urine freely. Tenderness over colon continued.

26th.—Pulse 124, respiration 28, and temperature 100½° at a. m.; dysenteric passages still frequent, with tormina and tenesmus. Some nausea, and other symptoms about the same as on the previous day. At p. m., pulse 112, respiration 24, and temperature 100°.

27th.—The patient reported better. Dysenteric evacuations less frequent, with less pain, but tenesmus continued. Some nausea; tongue coat-

* The histories were recorded under the immediate supervision of the House Physicians (residing in the hospital), whose names are given in connection with each case; I have condensed the histories as much as practicable.

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ed, and moist; much thirst. Aspect brighter. Some appetite; milk for diet. At p. m., pulse 102, respiration 32, and temperature 100°. During the day only five passages, and they contained some fecal matter.

28th.—Pulse 96, respiration 24, and temperature 100½°, at a. m. The evacuations not frequent, and contained fecal matter, the pain and tenesmus having much diminished. She reported much better. Tongue thickly coated, and moist; thirst continued. More appetite. Tenderness over colon diminished. At p. m., pulse 92, and temperature 100⅜°.

29th.—At a. m., pulse 94, and temperature 99¾°. Patient reported better. The passages not frequent, and containing more fecal matter. More appetite. At p. m , pulse 110, and temperature 100¾°. The passages but slightly dysenteric, and tenderness over colon slight.

30th.—Pulse 100, and temperature 100¼°, at a. m. One passage only since yesterday. Tongue slightly coated; appetite improving. At p. m., pulse 92, and temperature 99¾°. Reported feeling quite well, and wished to sit up.

Sept. 5.—Noted that she was now quite well, and was discharged.

Duration, from the commencement of diarrhœa to convalescence, 14 days; ditto to date of discharge, 19 days; duration from first dysenteric dejection to convalescence, about 12 days.

Case 2. (Dr. M. B. Early, House Physician).—Mary S——, aged 54, widow, domestic, was admitted August 9, 1872. A week before her admission she was seized with diarrhœa, and subsequently the dejections became dysenteric, accompanied with tormina and tenesmus. On admission, the dejections were frequent, and consisted entirely of bloody mucus. The skin was cool, with clammy perspiration. Pulse 100, and temperature 101½°. Tenderness over colon, especially the descending portion. No appetite; much thirst. Some nausea and vomiting; complains of weakness. The tincture of cinchona in water was prescribed, as in the preceding and in the subsequent cases.

Aug. 10, a. m.—The dysenteric passages continued to be frequent, with tormina and tenesmus. Skin moist and cool. Pulse 92, and temperature 99⅝°. Complained of weakness. Tenderness over colon continued. She had some appetite. At p. m., pulse 92, and temperature 102⅛°. Much thirst; tongue moist and slightly coated.

11th.—At a. m., pulse 88, and temperature 99½°. Complained of weakness. Dejections contained mucus, but no blood. Much thirst; no vomiting nor nausea. Tormina and tenesmus continued. Milk for diet.

12th, a. m.—Pulse 88, and temperature 99°. Had desire for food. Tongue coated. Slight tympanitis. Tenderness over descending colon continued; skin cool and perspiring. At p. m., pulse 84, and temperature 99°. The dejections were not frequent, and were fecal in character. Profuse perspiration.

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13th.—Pulse 86. Three passages during night, one containing some blood, the others fecal. Appetite good. Some tenesmus continued, and tenderness over descending colon.

14th, a. m.—Pulse 68, and temperature 98¼°. Passages few and fecal, with some tormina and tenesmus.

15th.—Reported feeling quite well. Passages few, and not dysenteric.

After this date the passages remained for some days loose, but without any dysenteric characters. It is noted, Sept. 6th, that the patient was up and about the room. She was discharged Sept. 18th.

Duration, from the commencement of diarrhœa to convalescence, 13 days; duration to date of discharge, 34 days; duration from the first dysenteric dejection to convalescence, about 10 days. The reason for her remaining so long in hospital is not noted, but, as is well known, in a pauper institution, patients are often allowed to remain, on the score of humanity, for an indefinite period after convalescence and recovery.

Case 3. (Dr. Lemuel B. Bangs, House Physician).—Edward R——, aged 36, was admitted July 8, 1873. Diarrhœa began on July 6. It followed a debauch. On his admission the dejections were very frequent, small, consisting of blood and mucus, and attended with tormina and tenesmus. The pulse was 108, respiration 21, and temperature 103°.

July 9, a. m.—Pulse 96, respiration 18, and temperature 100¼°. At p. m., pulse 76, respiration 16, and temperature 99½°. During this day there were five dysenteric passages, with tormina and tenesmus.

10th, a. m.—Pulse 80, respiration 18, and temperature 98½°. One passage only during the night, which was fecal in character. At p. m. pulse 72, respiration 23, and temperature 99°.

11th, a. m.—Pulse 68, respiration 16, and temperature 98½°. Patient reported much better. Three passages during the night, containing mucus, but no blood. At p. m., pulse 78, respiration 18, and temperature 98°.

12th, a. m.—Pulse 84, respiration 16, and temperature 98½°. During the night two dysenteric passages, with some tenesmus. He had some appetite. Milk diet. At p. m., pulse 72, respiration 24, and temperature 98¼°.

13th, a. m.—Pulse 72, respiration 20, and temperature 98¼°. Had had three passages since yesterday morning.

14th.—No passage since yesterday. The patient reported quite well, and was discharged on this date.

Duration, from commencement of diarrhœa to convalescence and discharge, 8 days; duration, from first dysenteric dejection to convalescence, 7 days.

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Case 4. (Dr. Joseph C. Young, Jr., House Physician).—Emma S——, aged 20, domestic, was admitted July 28, 1874. She was in the habit of taking opium, the daily quantity taken being from one to three ounces of the U. S. officinal solution of morphia. Her disease began five days before admission. On her admission she had frequent passages of blood and mucus, with tormina and marked tenesmus. She was deprived of opium, and the bromide of potassium with chloral was given to allay the nervous disturbance caused by the interruption of her habit. The tincture of cinchona mixture was given as in the preceding and subsequent cases.

July 29—The dysenteric passages had been frequent.

30th.—The dysenteric passages were less frequent.

Aug. 1.—The dysenteric passages had ceased, and she was distinctly convalescent.

5th.—Noted that she continued free from the disease.

Duration, from the commencement of the diarrhœa to convalescence, 9 days. The date of the first dysenteric dejection, and, also, the date of the discharge from hospital, were not noted. By mistake, in this case, one grain of opium was given once in a suppository to relieve tenesmus.

Case 5. (Dr. Jos. C. Young, Jr., House Physician).—Theodore Y——, aged 45, was admitted July 25, 1874. Three days before his admission diarrhœa began, and at the time of his admission he had frequent passages, consisting of blood and mucus, with tormina and tenesmus.

July 26.—He had had eleven dysenteric passages in the twenty-four hours.

27th.—During the last twenty-four hours, seven passages, the last fecal, and but slightly tinged with blood.

28th.—Two passages fecal in character. He was discharged on this date.

Duration, from the commencement of diarrhœa to convalescence and discharge, 6 days. The date of the first dysenteric dejection, in this case, is not noted.

Case 6. (Dr. Frederick W. Chapin, House Physician).—Peter G——, aged 40, was admitted Sept. 1, 1874. Three days before admission, after a debauch, diarrhœa began. The passages became dysenteric on the day of his admission. They were now frequent, and accompanied with tormina and tenesmus. There was but little constitutional disturbance, the pulse and temperature being about normal. Tongue somewhat glazed. Anorexia and much thirst.

Sept. 2.—Had had sixteen passages since the previous day; the last con-

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tained fecal matter in considerable quantity, the others wholly dysenteric in character.

5th.—The dysenteric passages had ceased, and patient was discharged.

Duration, from the commencement of diarrhœa to date of convalescence and discharge, 8 days; duration from the first dysenteric dejection, 5 days.

Case 7. (Dr. Robert A. Murray, House Physician).—Maggie M——, aged 37, was admitted August 22, 1874. Diarrhœa began four days before her admission. Two days before her admission the passages became dysenteric. She vomited frequently from the date of her illness up to the time of admission. On her admission the passages were frequent, consisting of sanguinolent serum and mucus, without any fecal matter, and accompanied with tormina and tenesmus. No febrile movement (temperature and pulse not noted). Much thirst. Complained of weakness.

Aug. 23 —Eight passages during the preceding twenty-four hours, of the same character as previously. Much pain and tenderness, but less tenesmus than on the day previous. No febrile movement.

24th.—Six or seven passages in the preceding twenty-four hours. Pain, tenderness, and tenesmus, diminished.

25th.—Less pain and tenesmus. Dejections less sanguinolent, and contained some fecal matter. Reported stronger. Asked for solid food, the diet hitherto having been milk. Some solid animal food was allowed.

26th.—The passages were mostly fecal, containing a little blood. Tormina, tenderness, and tenesmus, slight. She was allowed to sit up for a short time on this day.

27th.—Two passages in the night, with some blood and tenesmus; none on this date. Sat up the entire day, and ate the ward diet.

28th.—Two natural passages in night, and none on this date.

30th.—Several loose passages on this date, but no blood nor mucus; some tenesmus and slight tormina

Sept. 1.—Up and about the ward. Passages normal.

3rd.—Discharged well.

Duration, from the commencement of diarrhœa to convalescence, 10 days; ditto to discharge, 17 days; duration, from date of the first dysenteric dejection to convalescence, 8 days.

Case 8. (Dr. Robert A. Murray, House Physician).—Johanna L——, aged 49, was admitted August 15, 1874. Diarrhœa began two weeks before her admission. The dejections were frequent and watery, but without tenesmus, up to the day before her admission, when they became dysenteric. Although she had lost appetite and felt quite weak, she kept about until the day before her admission. On her admission she had a sallow com-

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plexion; the surface was cool and dry; the pulse was 80, respiration 20, and temperature 98°; tongue slightly furred; some thirst; anorexia. The passages consisted of mucus and sero-sanguinolent liquid, accompanied with some tenesmus and tormina.

Aug. 16.—Passages during the night very frequent, so that she desired the bed-pan under her constantly, and they continued to be frequent during the day, accompanied with tormina and tenesmus.

17th.—Reported better. Had some appetite. The passages were less frequent, and were accompanied with less pain and tenesmus.

18th.—The patient was much better. The pain was much less, and no tenesmus. The passages were still numerous, consisting of sero-sanguinolent liquid, with but little mucus and some fecal matter. Tongue clean. No febrile movement.

19th.—No material change. The patient desired salted codfish for diet, which was allowed.

20th.—Marked improvement in general condition and in the dejections.

21st.—The passages consisted of fecal matter alone. No tenesmus.

22nd.—Progressive improvement. The passages were feculent but loose.

23rd.—The patient was much frightened by an unruly inmate of the ward, and this was followed by severe tormina and numerous loose passages, but without blood, and with very little mucus.

24th.—Patient reported quite comfortable. Had had two passages only, and these were natural. She was now taking solid animal food.

27th.—No return of dysenteric passages.

Sept. 2.—Progressive improvement, and the passages natural.

13th.—Discharged well.

Diarrhœa preceded the characteristic dejections of dysentery in this case for nearly two weeks. Dating from the latter, the duration to convalescence was 7 days; ditto to date of discharge, 31 days.

Case 9. (Dr. F. W. Chapin, House Physician).—Terence D——, aged 35, was admitted October 20, 1874. Diarrhœa began seven days before the date of his admission, and on the second or third day afterward the dejections became dysenteric. On his admission, as previously, they were very frequent, small, consisting of bloody mucus, and accompanied with tenesmus. The axillary temperature was 100½°.

Oct. 21.—On the evening of the 20th, the patient had an epileptiform convulsion, and he stated afterward that he had had five similar attacks during the preceding five years, and that they had followed excessive drinking. On this day, at a. m., the temperature was 101°, and at p. m. 100°. The dysenteric passages continued to be frequent, with tormina and tenesmus.

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22nd.—The dysenteric passages were less frequent, the pain and tenesmus being less marked. Temperature at a. m. 99⅘°, and at p. m. 100¼°.

23rd.—Dejections much less frequent, containing mucus, but no blood; no tormina, and only slight tenesmus. He reported much better. Temperature at a. m. 98¼°, and at p. m. 100°.

24th.—A few dejections, which were not dysenteric.

25th.—The patient reported very comfortable, and had a fair appetite.

26th.—One dejection only, and natural.

27th.—Patient up all day.

29th.—Progressive improvement.

Nov. 1.—Discharged well.

Duration, from the date of the commencement of diarrhœa to convalescence, 11 days; ditto to date of discharge, 17 days. Duration, from the first dysenteric dejections to convalescence, 8 or 9 days.

Case 10. (Dr. F. W. Chapin, House Physician).—Albert C——, aged 50, was admitted November 7, 1874. Diarrhœa began six days before the date of his admission, and dysenteric dejections had existed for two days. The dejections were very frequent, consisting of bloody mucus, and accompanied with tenesmus, but without tormina.

Nov. 11.—No notes were made on the three intervening days. On this date noted that the passages contained mucus, but no blood, and the tenesmus was diminished.

14th.—Noted that there had been eight or nine dejections daily, but without blood, and, since yesterday, without mucus. No tenesmus.

20th.—Noted that the dejections had had, since the last record, the characters of a simple feculent diarrhœa, several occurring daily. The patient now reported quite comfortable.

25th.—Three or four loose passages daily, not dysenteric.

Dec. 1.—Diarrhœa had ceased, and he was convalescing rapidly.

10th.—Discharged well.

The duration, from the date of the commencement of diarrhœa to date of convalescence, 12 days; ditto to date of discharge, 39 days. Duration, from the first dysenteric dejection to convalescence, 8 days.

The foregoing ten cases are all which I have observed with reference to the study of the natural history of the disease.

The disease in no instance ended fatally. The duration, dating from the beginning of diarrhœa to the time when convalescence was declared, varied from 6 to 21 days. In one

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case only was the duration 21 days, and in this case diarrhœa had existed for 14 days before the occurrence of the first dysenteric dejection; the duration, in this case, after the latter dejection had occurred, being 7 days; throwing out this case, the next longest duration was 14 days. The shortest duration was six days. The mean duration of all the other cases is 11 1-5 days. The mean duration of nine cases, excluding the case in which diarrhœa preceded the dysenteric evacuations for fourteen days, is 10 1-9 days.

These results of the analyses serve, so far as inferences from the small number of cases are warrantable, 1st, to corroborate the conclusion drawn from the study of cases in which treatment, more or less active, had been employed, in respect of fatality, namely, that sporadic dysentery, in a temperate climate, tends intrinsically to recovery; 2nd, to show that this disease has a self-limited duration. The number of cases analyzed, few as they are, perhaps suffice to establish these two important points in the natural history of the disease.

With reference to the inquiry in how far treatment may affect the duration, it is of interest to compare the foregoing results of the analysis with those of my analysis of 49 cases in 1853. The mean duration in thirty of the latter cases, ending in recovery, as already stated (*vide* page 157), was 9 5-6 days; this is a little less than the mean duration of the cases now analyzed. The difference is small, and it may be inferred from the comparison that in the 30 cases analyzed in 1853, the treatment had very little, if any, effect, in abridging the duration of the disease.

The 10 cases now analyzed were all hospital cases, and, perhaps, the comparison were fairer if limited to the hospital cases among those formerly analyzed. Of the 30 cases, 13 were in hospital practice. The mean duration in these 13 cases, as already stated, was just 13 days, which is somewhat longer than the mean duration in the cases now analyzed. If we were to draw an inference from this latter comparison, in respect of the effect of treatment, it would be that the duration was thereby somewhat lengthened. This would probably

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be a strained inference, and I shall content myself with the conclusion that the duration, in the cases formerly, as well as those now, analyzed, was determined by the self-limitation of the disease.

The duration in 9 of the 10 cases, from the date of the beginning of diarrhœa to the date of the discharge from the hospital, varied from 6 to 39 days, the mean duration being 19·89 days. The stay of patients in hospital after convalescence does not necessarily denote unusual tardiness in recuperation, whereas a speedy discharge is generally evidence of rapidity in the restoration of health. The duration to the date of discharge, in these cases, is chiefly of interest with regard to the latter point. In 3 of the cases, the date of discharge was the same as the date of convalescence; these patients were considered as, at once, in a condition to leave the hospital. But, comparing the mean duration in all the cases, to convalescence, with the mean duration to the date of discharge, the latter exceeds the former by only a fraction over 8 days. The analysis, therefore, in this respect, sustains a conclusion drawn from my former analytical study of this disease, namely, that convalescence is usually rapid.

In no case was there a relapse after convalescence during the stay in hospital. In some instances a feculent diarrhœa followed the dysenteric dejections, but the latter, having once ceased, did not recur in any case. It should be noted in this connection, that the patients were allowed to take such solid food as they desired, as soon as they had a desire for it, the previous diet consisting chiefly of milk. The diarrhœa following the dysenteric dejections may have been due to indigestion, and, if so, the presence of undigested aliment in the large intestine did not reproduce the dysentery. The analysis in this point of view sustains a conclusion drawn from my former analysis, namely, the disease is not one which tends to relapse, resembling, in this respect, typhus and typhoid fever, pneumonia, etc. This fact is to be added to the self-limited duration, and other facts proving the specific character of the affection.

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In no case did a chronic follow the acute affection, as is not infrequently observed in tropical climates. As regards a result of my former analysis, to which reference has already been made, namely, the diminished susceptibility to the cause or causes of dysentery after the disease has been once experienced, this group of cases furnishes no facts of importance. Nothing is known of the patients after their discharge, excepting in one case; Peter G——, case number 6, was lately in hospital with alcoholism, and he stated that he had not had dysentery since he left the hospital. It may be mentioned that the previous history in all the cases (which I did not introduce in my abstracts) was more or less full, and in no instance had the patient previously had dysentery.

The duration, from the first dysenteric dejection to the date of convalescence, was noted in 8 cases. The longest duration was 12 days, the shortest 5 days, and the mean duration was 8½ days. Comparing the latter with the mean duration from the beginning of diarrhœa to convalescence in all the cases (11 1-5 days), the difference, a fraction over 3 days, shows the mean duration of the diarrhœa preceding the dysenteric characteristics.

In the 10 cases now studied, as in the 49 cases previously analyzed, the disease finished its course without any important complication or secondary affection. In none of the cases which I have collected was the disease associated with articular rheumatism or paraplegia, affections to which dysentery has been supposed sometimes to give rise.

To recapitulate the practical conclusions drawn from the study of ten hospital cases of sporadic dysentery, with reference to the natural history of the disease—

1. The disease, in a temperate latitude, tends, without treatment, to recovery.

2. It is a self-limited disease, and its duration is but little, if at all, abridged by methods of treatment now and heretofore in vogue.

3. Convalescence is as rapid when active measures of treatment have not been employed, as in cases actively treated.

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4. Relapses do not occur in the cases in which the disease has been allowed to pursue its own course without active treatment.

5. Sporadic dysentery, in a temperate climate, does not eventuate in a chronic form of the disease; in other words, it does not lead to ulceration or other lesions of the mucous membrane of the large intestine, and it does not involve any tendency to complications or secondary affections.—*American Journal of the Medical Sciences.*

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Extracts from Home and Foreign Journals.

SURGICAL.

ON THE TREATMENT OF FRACTURES.

BY DR. SCHWAB, OF WURZBURG.

The physician, when called upon to treat a fracture, either of the upper or lower extremity, is occasionally embarrassed in the selection of his mode of bandaging or dressing; not only on account of the multiplicity of these modes, but also because the necessary articles are frequently not at hand or not easily obtainable.

I take the liberty, therefore, of calling the attention of my professional brethren to an article at once simple, yet effective, which is always to be found in every household. The same method may have been made use of by others, but I do not recollect ever seeing it mentioned in any surgical work. The "plaster of Paris bandage" has, it is true, stood well the test of experience in the treatment of fractures, but the necessary articles are, unfortunately, not always at hand, and frequently difficult to obtain.

I have found albumen, as in the white of egg, to answer equally as well as the plaster of Paris; and as eggs are to be found in nearly every house, it is always at command when needed.

In addition to the whites of six to eight eggs, there will be needed an old linen sheet, from which a bandage of scultetus can be cut, a piece of pasteboard, which is always at hand in

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the cover of an old book, and a roller bandage from three to four yards in length.

The bandage of scultetus and pasteboard are first saturated with the albumen and the bandage carefully applied, allowing the edges to slightly overlap. This bandage should reach to the joints above and below the fracture. The pasteboard is then smoothly adjusted to the part and secured with the roller. The limb is kept in proper position by means of small bran-bags, or cushions of straw.

I have used this method exclusively for twelve years, in the treatment of all fractures of the extremities, with complete success. *No shortening*, or other deformity, ever followed.

In fractures complicated by superficial or deep wounds, an opening is cut through the pasteboard and bandage, to permit free access to the wound.

In cases where swelling had taken place in the injured limb I have applied this bandage, and frequently found the swelling to completely disappear on the second or third day. The bandage and splint are then taken off and re-applied.

Whether it be a delusion or not, I believe to have discovered that, with this bandage, the fracture unites, and mobility of the joint returns, much earlier than with any other dressing. This result I ascribe principally to the curative action of the albumen.

In comminuted fractures, also, I have not hesitated to apply this bandage, even though the splintered portions of bone could not be brought in coaptation.

As the dressing dries in a few hours, the transfer of the patient on the day of the injury is rendered practicable; in time of war this is of great importance and advantage, as it is frequently necessary to evacuate a field hospital on very short notice.

The following points, as demonstrating the superiority of this over any other method of treatment, are presented for consideration:

1. The ease and rapidity with which the articles needed can be obtained.

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2. The ease of application, and the rapid drying of the bandage.

3. The early abatement of the pain.

4. The more rapid recovery, and, consequently, the earlier use of the fractured limb.—*Baltimore Physician and Surgeon.*

ASCITES.—RECOVERY AFTER TAPPING ONE HUNDRED AND THIRTY-THREE TIMES.

Dr. A. Jamieson (*Edinburgh Medical Journal*) reports the following remarkable case:

A woman was tapped one hundred and thirty-three times on account of rapidly recurring ascites. Cause of ascites was obscure. Patient was temperate, and had generally enjoyed good health. The ascites came on gradually, her age being sixty. There was no heart disease; no albumenuria; never jaundice; size of liver normal; no ovarian disease. The operations were all performed between April, 1870, and September, 1874. At one time the patient had to be tapped every week, three gallons being removed on each occasion. Towards the end of this period the fluid accumulated more slowly, but the interval between the one hundred and thirty-second and one hundred and thirty-third tapping was only three months. Since last operation there has been no appearance of the dropsy; the patient now gets about actively, and is in excellent health.—*London Medical Record*, April 14, 1875.

ON SOUNDING FOR STONE.

The subjoined hints are given by Dr. Croly, in the *Irish Hospital Gazette:*

In sounding for stone there are several deceptions. If you introduce the instrument too far you may hit against the tuberosity of the ischium or the sacrum, and then you may say, "here is a stone in the bladder," but at the opposite side you will hear the same sound. In sounding, there is one manœuvre

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very useful, namely, on withdrawing the instrument, trying to catch the stone in the concavity.

An affection has been described by Guthrie (called "fluttering blows,") in which the bladder is thrown into a number of pouches, and its coats are somewhat thickened and contract on the instrument, so that a sound is heard which may be mistaken for that produced by a stone. If you have a difficulty in striking the stone, you should try the patient in various positions. The stone may be up behind the pubes. In one of the children on whom I operated here, the stone slipped up behind the pubes, and I only could get it out by giving him a slap over the region of the bladder, and then the stone fell down. In such a case, by introducing the finger into the rectum, you may tilt up the stone, and cause it to hit against the sound.

But I believe that, in addition to sounding for the stone, it is very necessary to grasp the stone, if possible, by the lithotrite, and measure it, to give you an idea of the size of the stone. If you can move it in various directions, you may have no hesitation in saying, "here is a foreign body measuring so many lines"; and furthermore, if there is a second stone, you are able to hit it against the other. I remember when sounding a man, on one occasion, having a ring on my finger, the instrument hit against the ring and emitted a sound; I did not hear it again. At another time, in sounding a man who wore a pair of corduroy breeches with buttons, I heard a click, but discovered that striking a button with the instrument had caused it. I have made it a habit since to make a man let down his trowsers altogether, and I take off my ring. If the surgeon is too confident, he might cut a man who had no stone. The first point to ascertain is, whether there is stone in the bladder or not; and if it exists, to satisfy yourself, as far as you can, as to its size.—*Medical and Surgical Reporter.*

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IS STRAPPING NECESSARY IN THE TREATMENT OF INFLAMED TESTICLE?

BY T. CURTIS SMITH, M.D., OF MIDDLEPORT, OHIO.

This is a question I have often asked myself when called to treat difficulties of this nature. It is truly a practical question; for upon its answer depends no little trouble to the surgeon, and annoyance, sometimes suffering, to the patient. That the strapping, when well done, will prevent further swelling of the testicle, and will promote absorption, all are probably ready to grant. But when the absorption or diminution of the swelling has fairly begun, the attendant finds in necessary to renew his strapping in order to secure the full value of this plan of treatment. Thus he finds himself set for a daily task, not always an easy one, until the case has quite recovered.

Equable pressure will certainly secure an increased absorption, but may it not be obtained by other means, of less trouble? I think it certainly can; as by the plan of enclosing the testicle in a light rubber sac, or condom, as some have recommended. Either of these will not require to be daily changed, for, as the swelling diminishes the sac closes in also, thus keeping up a continued and equable pressure from first to last.

Another advantage in using these is the fact that cold or evaporating lotions can be as readily applied as though no sac enclosed the testicle, and much more cleanly than when the common adhesive straps are applied.

Another means of effecting pressure, is by the use of collodion, which, after its application, immediately contracts, bringing to bear quite a strong pressure over the entire surface where it is applied. This can be removed and renewed, certainly, more easily than the straps.

But, in my experience, very few cases need strapping. I have not strapped an inflamed testicle for years; nor have I applied any kind of pressure; and yet I think I have uniformly good results. Many cases are very light, and need little more than a good suspensory bandage, a saline cathartic,

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and perfect rest. In severe cases I put the patient in bed, give him a free saline cathartic, apply cold—*very cold*—water, or ice, to the swelled organ, and keep it elevated as high as possible. The cold *constantly* and thoroughly applied—by which I mean that the testicle is never to be allowed to get warm; but the cold is to be kept applied continuously, and it will check the inflammation usually in twenty-four hours or less, and by the second day the swelling is found to be receding. After the saline has operated freely, opium in large doses is advisable, not only to allay the pain, but it should be given in antiphlogistic doses.

Very many of the cases are of syphilitic origin. When such is the fact, the free use of mercury is very judicious, or of mercury and potass. iodid. In all cases where I have any doubt as to whether the disease is of syphilitic origin, I invariably give the patient the benefit of the doubt, and give the mercury anyhow; for the reason that if it is not specific, the agent is a good antiphlogistic, and doubly so if the suspicion be correct. I have never met with a case that did not readily yield to the above plan of treatment, when well carried out by the patient and attendants.—*Medical and Surgical Reporter.*

MEDICAL.

ON DOSES.

Doses are the most relative things in the world. It must be confessed that a certain maturity of mind and boldness of action are requisite to escape from the slavery of posological entities and essences, and to allow the apparent exigencies of the case before us to be our sole guide. That constitutional bashfulness which is called "caution," which habitually de-

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lights in small ways, and which is half afraid of the instruments it uses, should practice other arts than medicine. A wise courage is the physician's watch-word.—*Medical Press and Circular.*

CEREBRO-SPINAL FEVER.

Dr. J. B. Hamilton writes to the New York *Medical Journal*, February, 1875, on cerebro-spinal fever:

I am not much in favor of set formulæ, but should I be called to treat a case to-day, I should outline the treatment as follows:

For the first twenty-four or forty-eight hours—

℞—Ext. ergot. fl. ..... ℥j.
Sp. ammon. arom. ..... ℥ii.
A teaspoonful in a little water every four hours.

℞—Potass. acetat. ..... ʒxij.
Aquæ camph. ..... fl℥vj.
A tablespoonful every two hours until diuresis is produced.

In addition to these remedies, I should direct a warm bath, followed by wrapping in flannel or rubbing with dry mustard, every three, four, or six hours, according to the urgency of the case. Stimulants may be necessary from the outset.

As soon as the symptoms show any amelioration, the ergot mixture may be diminished in frequency, and at the third or fourth day discontinued. Quinine in large doses will then be found of advantage, and a more stimulant diuretic, as spts. etheris nit., may be substituted for the potassa acetate; and for the sequelæ nothing, in my hands, has proved more serviceable than iodide of potassium as occasion demanded.

This treatment was arrived at only after finding the utter worthlessness of the bromide-of-potassium treatment, which is so much relied on by some practitioners, and I have no doubt but many cases seen by me, not reported, which were only symptomatic, and were speedily relieved by this treatment,

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would, by the ordinary method, have been as violent as the first cases here recorded, and would have met the usual fate.

I wish to enter an emphatic protest against the treatment of cerebro-spinal meningitis as an inflammation.

It is a zymotic disease, and the fever and localized inflammatory process depend upon a miasmatic poison.

In the beginning the skin is always dry; the secretions throughout the body are arrested. This is generally before the practitioner sees the case, and the patient often dies from retention in the blood of excrementitious material. When the excreting organs are at once overpowered by the malarial poison introduced from without, the patient dies suddenly, a victim to chemical forces generated within his own body.

No treatment will be of any avail which does not have *elimination* for its primary object. The best method of that elimination may be a matter of dispute, but, as elimination by the kidneys is unattended by depression, that method would seem preferable. The skin is an eliminating organ of great importance, and all possible advantage should be taken of that physiological fact. Happily, diuretics and diaphoretics are easily combined, and the warm bath with mustard excites the sudoriparous glands.

The retention of urea in the blood is shown by the objective symptoms, and the uric-acid smell in the perspiration; and the great relief afforded by diaphoresis and diuresis gives further evidence of the toxæmic condition of the patient.

The treatment outline has been found reliable, and this view of the pathology of the disease will, I think, bear the test of time and patient investigation.—*Half-Yearly Compendium of Medical Science.*

RULES FOR THE ADMINISTRATION OF ERGOT.

Dr. J. Braxton Hicks, in a lecture published in *Guy's Hospital Gazette*, February 6, 1875, says:

There is a rule which I may as well mention here, namely, *not to give secale if any obstacle to delivery is expected, unless we are prepared to render assistance when the pains have been*

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roused. I have seen the former portion of this rule enforced, but this is limiting our use of secale too much. Unless we have instruments, etc., close by, then the rule holds good. As an instance of the employment of this drug under these circumstances, I may mention a case.

I was sent for in consultation to a patient who had been a long time in labor. The pains had subsided. Two doses of liquor secalis had been given, but without any result. The uterus was still motionless. It was not in a permanently contracted condition. I therefore repeated a third dose. I waited an hour without result. Thinking that perhaps the preparation was at fault, I gave twenty grains of the powder, boiled in water, and drunk with the dregs. In a quarter of an hour the uterus was in full action. We had suspected some obstruction from noticing the size of the pelvis. I was therefore ready with the forceps.

After waiting fairly, and finding no advance, the forceps was applied and the child delivered, an active uterus making the remainder of delivery safe and natural. The same would occur in a very contracted pelvis; if the uterus should fail in its activity in this case, even if we perforate first (supposing we do not think it advisable to turn), we are much assisted, and no danger is run, if we arouse the uterus into action before we draw down the child.

It is difficult to lay down rules as to when it is urgent, in cases of inactivity of the uterus, that we should stir it up to action. I remember, in my younger days, allowing the head of a premature fœtus to rest on the perineum for twelve hours, at the end of which time there was one pain and the child was expelled. The administereng of a dose of secale would at any time rouse *pains;* still, as there was no pressure, and as no ill resulted, there was no necessity. The pulse remaining good, and no aberration from the normal state existing, we may elect to wait without serious harm; it may be more convenient to get the labor over, and we shall not be acting wrong in hastening matters. But when the pulse rises, feverishness begins, and the patient becomes anxious, fretful, and irritable, it is as

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well, the path for the exit of the child being clear, to give a dose of secale, especially if we have tried the perhaps milder though less certain measures at our hand for stirring up *pains*. When the case is well selected, the full dose of secale, from half a drachm to one drachm, acts more satisfactorily as an expellant than small frequent doses. The latter tend to irritate the uterus and retain the child. If the uterus, however, be violently roused to expulsion, while the passages are unprepared or obstructed, then the uterus may injure and rupture itself, or may tear down the obstacle, rending the vagina or perineum, or damage the child by pressure, or crush its cranial bones, or rupture the longitudinal sinus by too much overlapping.

I prefer to give ergot in the form of powder, twenty to thirty, or even forty grains, boiled in water, and the whole taken; this may be repeated in twenty or thirty minutes. There are many preparations which can be given, if proved to be good, in equivalent doses. The ethereal tincture keeps well and is efficient, but is nauseous, and liable to cause vomiting. It is prompt, and may be useful in *post partum* hemorrhage. Ergotin has been employed in about four-grain doses injected subcutaneously. It is said to be very efficient and rapid in action, but personally I have not sufficient experience of it at present to speak of it more.

It will be a very great advantage if ergot can be made to act promptly. Given in the form of a powder it is slow, even when previously boiled. It is more efficient if we employ the liquor of tincture, still it is very slow for such cases as *post partum* floodings. In ten minutes the crisis has often passed with one of two terminations; thus, although secale is good in the milder cases of flooding, it is practically useless in the sudden forms, unless its action come in afterwards, when our more active treatment has succeeded, to secure permanent contraction. It is a questionable point whether large doses of secale do not depress the heart's action, so much as to render its employment to be avoided in extreme cases of flooding. I am inclined to think that it has this effect; but this will not affect

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our employing it in cases without violent flooding. If in cases of flooding before labor we want to increase uterine action, we may generally employ it, unless the patient be nearly pulseless. It is always a great comfort to feel that when the child is born, the uterus will most probably be in an active state from the previous dose of ergot.

It has also been supposed that ergot is poisonous to the child. For myself, I have no proof of its poisonous properties, but I have often seen it kill the child. If you give it in ill-suited cases—I mean where the uterus, as in many primiparæ, is already irritated, where it has already half asphyxiated the child, by pressing on the funis, placenta, and half closing the sinuses, then a dose of secale will go far to ensure its death; or if impaction be already present, and the suture overlapping, then the parts inside the cranium are pressed upon so hard as to extinguish life, or at least so to damage the brain as to make the child an intellectual wreck. Given in moderate doses, and in true inertia, I know no drug which is so certain of producing the desired effect.—*Ibid.*

SALICYLIC ACID, A NEW ANTISEPTIC.

A substance possessing the powerful antiseptic and antizymotic properties of carbolic acid, without its offensive odor, cannot but prove a valuable addition to the armamentum of the physician and surgeon.

Two chemical compounds fulfilling these requirements have been recently brought into prominent notice. One of these—boracic acid, an inorganic compound—has been long known to physicians, having been employed in former times under the name of Homberg's sedative salt. The other is of comparatively recent discovery, being one of the almost innumerable compounds which the essentially modern study of organic chemistry has brought to light. Having been first obtained, some forty years ago, as a derivative of salicin, the bitter principle of willow (*salix*) and other allied plants, it received the name of salicylic acid. Subsequent researches showed that its aldehyde constituted the oil of spiræa, and that, in combi-

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nation with methyl, it formed the oil of wintergreen, *gaultheria procumbens.* Still later it was obtained as a derivative from carbolic acid or phenol, and it was this circumstance, probably, which led to the very interesting researches of Prof. Kolbe and others that have established its remarkable antiseptic powers.—*Detroit Review.*

DIPHTHERITIC SORE THROAT.

The following easy and successful method of treatment, recommended and practiced by Dr. Lolli, has given similar results for many years, and the conclusions drawn by the author are as follows:

1. Never cauterize the throat or abstract blood; abstain from purgatives and emetics, unless in very exceptional cases.

2. Nourish the patient according to his appetite, but let the food be light and easily assimilated.

3. Keep up the functions of the skin from the very commencement of the disease till the local, or still better, the general symptoms, allow you to judge that the morbid process is extinct. (Great stress is laid on this point.)

4. For local application, as well as for internal use, the author strongly recommends the following "anti-diphtheritic mixture":

Boiling water.....	℥vi.–xx.
Liquid sesquichloride of iron	♏xx.–ʒi.
Carbolic acid.....	gr. iij.–xx.
Red honey.....	℥vi.

This can be used internally and as a gargle every two hours; one or two spoonfuls being a dose.

The result of this treatment in sixty cases has been—a mortality less than 2 per cent.; medium duration of the attack, eight to ten days; extension of disease to air passages rare and slight; sequelæ, none, or very rare.—*Repeterio Faliciense.* —*Glasgow Medical Journal.*

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AN ANTIDOTE TO CHLOROFORM.

Dr. Schuller has discovered that the nitrite of amyl quickly removes the effects of chloroform on the vessels of the pia mater, and that even in cases of advanced narcotism from the latter drug, it rapidly relieves the dyspnœa and labored respiration, restoring the strength of the pulse, and the reflex excitability. This discovery may prove of much practical value where chloroform continues to be the favorite anæsthetic.—*New York Medical Journal.*

DIGITALIS.

M. Gaunot (*Gazette Medicale de Paris*) says: "When digitalis or digitalin is administered for some time to a man in full possession of sexual powers, these become gradually weakened, the propensities disappear, formation of the liquor seminis diminishes, and may at last cease altogether. The anaphrodisiac properties of the drug are the secret of its good effect in spermatorrhœa."

Dr. Little recommends the use of digitalis in febrile cases in which stimulants are either not well borne or are contra-indicated, as where renal affection is present. He has given half-drachm doses of the tincture every three or four hours in typhus, enteric, and rheumatic fevers, with very favorable results.—*Edinburgh Medical Journal.*

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Editorials, Reviews, Etc.

MEDICAL ETHICS.

"It is derogatory to the dignity of the profession * * * to publish cases and operations in the daily prints, or suffer such publications to be made." —*Code of Medical Ethics.*

THERE is probably no part of the Code of Ethics adopted by our profession, more pointed and better understood than the extract above cited, and no clause in it more abused. There seems to be a peculiar penchant with many physicians, both high and low, old and young (who mistake vulgar notoriety for true professional reputation), to see their names and deeds blazoned in the secular press. We can scarcely pick up a newspaper, urban or provincial, in which mention is not made of some great doctor in terms of laudation. For instance, that Dr. Dogberry has just performed his hundredth operation for stone in the bladder, with his usual skill and success; or that John Smith had, in an altercation, received a punctured wound from a knife, injuring the axillary artery, and probably some of the branches of the plexus of nerves in the axillary space, and had it not been for the great anatomical knowledge and surgical skill of Dr. Dodemus Duckworth he would undoubtedly have bled to death; but the skillful doctor ligated the axillary artery and dressed the wound, *secundum artem*, and the patient *now* has some chance of recovery.

It is sickening, to one who has the honor and glory of his profession at heart, to read the newspaper puff, which dubs the operator (possibly a professional friend), *quack*. It is hardly probable that editors of secular papers have just found out the worth, or just began to appreciate the learning and skill, of

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the profession, so that they think it their duty to publish these wonderful exhibitions of skill (?). It is more probable that the puffed has, either directly or indirectly, been instrumental in getting his own name in the papers.

We will not deny that occasionally a flattering notice does get into the public prints without the knowledge of the physician mentioned, and beyond his control or prevention; but, from our familiarity with the press, we feel sure that a large majority of them appear with the knowledge and consent of the parties interested.

The true and skillful physician and surgeon needs no such means to enhance his reputation. He passes on in the even tenor of his way, doing his whole duty to suffering humanity, satisfied with a conscientious discharge of that duty, without caring a fig for the plaudits of the multitude. He is willing for his professional reputation to stand upon his own merits, without the doubtful aid of secular prints; and when we see one who is always anxious to have his name and deeds flaunted in the public face, through the instrumentality of newspaper advertisings—who always contrives to have mention made in the papers of operations performed or wonderful cures effected —we are compelled to believe he is a professional *quack*. At any rate, he lays himself liable to the imputation of being so called.

This newspaper advertising is one of the greatest offences that can be committed against the honor and dignity of the profession. The real wrong inflicted upon the profession is the false impressions of extraordinary abilities intended to be conveyed to the public, who are not able to discern the true from pretended worth. We have many medical journals, in which the grand exploits of members of the profession may be communicated to readers who can discriminate and appreciate them, and these are the only legitimate channels through which the honorable physician or surgeon can communicate. His name cannot appear in a newspaper, even without his knowledge, in connection with the report of a case or with a laudatory puff, without doing an injury to himself and to the profession at large.

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CLINICAL TEACHING.

THE progress of time has developed one fact in relation to medical teaching, which cannot be ignored by any Faculty or Board of Trustees—namely, that clinical teaching is an absolute necessity. Every medical college which cannot supply an abundance of clinical material will certainly fail to receive patronage sufficient to sustain it, and will have to close its doors sooner or later.

To be really profitable, clinical instruction should be at the bedside of the patient, and in order that this shall be done, hospitals should be directly connected with medical colleges.

The Faculty of the Medical Department of the University of Nashville and the Vanderbilt University, feeling the importance of increased facilities for clinical instruction, determined, a few months since, to erect a large hospital on the college grounds, in direct connection with the college building.

The hospital building is situated on College street, with a frontage of one hundred and fifty-six feet, the central portion being three stories, and the wings (one on each side of the central portion) two stories, with a basement. The front of the building is ornamented with a porch fifty by ten feet, from the upper stories of which may be obtained the most picturesque view of the city and its beautiful surroundings. The central building is intended for the main entrance and the executive department, dispensary, office, library, &c. &c. On each side of this executive department are two wards, fifty-two by twenty-eight feet, and fifteen feet high to ceiling. Each of the four wards is ventilated by ten large windows, flues in the walls, and by a stack ventilator. They are freely supplied with hot and cold water, and brilliantly lighted with gas. Each ward has attached, water-closet, bath-room, linen-room, dead-room, &c. &c.

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Besides the larger wards, there are several smaller, for venereal patients, for lying-in women, &c., and others still for patients who are able to pay their expenses. All the wards communicate directly with a large clinical lecture-room, into which patients are conveyed on a new and improved hospital railway.

The large *campus* around the building is to be ornamented with shade-trees, serpentine walks, flowers, arbors, fountains, &c., for the benefit of convalescing patients. It is, in fact, to be complete in all its appointments.

The buildings will be completed and ready for occupancy in two weeks from this writing.

Dr. A. A. East, recently Assistant Physician to the Tennessee Insane Asylum, has been elected Physician and Superintendent, and will furnish the buildings and enter upon the discharge of his duties as soon as the painters finish their work. We think Dr. East is peculiarly adapted to the position. He was a favorite student of ours; and after serving through the war as a surgeon, he was appointed first Assistant Physician to the Lunatic Asylum, a position which he filled with great credit to himself and benefit to that institution, for ten years. He is thoroughly conversant with the details of hospital service.

Nashville has, for a long time, been a surgical centre for a large extent of country; and the surgical clinic at our Medical College has been unsurpassed. More than two hundred surgical cases were presented to the last class, involving operations of every magnitude, from amputation at the hip-joint to avulsion of the toe-nail.

Now that preparations have been made to bring patients before the class—or, rather, to bring the class before the patient at the bedside,—no better field for medical clinics can be found by the student seeking a medical education.

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OUR LAST GRADUATING CLASS.

NOTWITHSTANDING the *Journal* has, on two occasions, corrected an erroneous statement made by some one of its exchanges and copied into many others, in reference to the last graduating class of the Medical Department of the Nashville and Vanderbilt Universities, the incorrect statement is still being copied, and we have the credit of having had only fifty-eight graduates, when, in fact, we had seventy-one.

OVARIOTOMY.

DR. GEORGE H. BIXBY, of Boston, respectfully solicits from the members of the profession in the United States, who have performed ovariotomy, their experiences in brief, in regard to the occurrence of pregnancy subsequent to the operation.

Answers to the following questions will be gratefully received and duly acknowledged:

Number of cases; age; social state; previous births; complications; adhesions; treatment of pedicle; number of births; nature of births; subsequent history.

THE EDITORS will not be responsible for views expressed by contributors.

WE decline to send specimen copies to the numerous applicants. It has long since become a nuisance.

BILLS for subscription to the JOURNAL have been sent to all our delinquent subscribers. Will they please gladden the heart of our printer by a prompt response?

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BOOKS AND PAMPHLETS RECEIVED.

CLINICAL LECTURES AND ESSAYS. By Sir JAMES PAGET, Bart., F.R.S. D.C.L. Oxon., LL.D Cantab., Sergeant-Surgeon Extraordinary to Her Majesty the Queen, Surgeon to H. R. H. the Prince of Wales, Consulting Surgeon to St. Bartholomew's Hospital, etc. Edited by HOWARD MARSH, F.R.C.S., Assistant Surgeon to St. Bartholomew's Hospital and to the Hospital for Sick Children. New York: D. Appleton & Co. 1875.

ON PARALYSIS FROM BRAIN DISEASE in its Common Forms. By H. CHARLTON BASTIAN, M.A., M.D., F.R.S., Fellow of the Royal College of Physicians, Professor of Pathological Anatomy in University College, London; Physician to University College Hospital, and Senior Assistant Physician to the National Hospital for the Paralysed and Epileptic. With Illustrations. New York: D. Appleton & Co. 1875.

ECZEMA.—The Management of Eczema. By L. DUNCAN BULKLEY, A.M., M.D. New York: G. P. Putnam's Sons. 1875.

A SERIES OF AMERICAN CLINICAL LECTURES. Edited by E. C. SEGUIN, M.D. Vol. I. No. 7. "Capillary Bronchitis of Adults," by CALVIN ELLIS, M.D., Jackson Professor of Clinical Medicine in Harvard University. New York: G. P. Putnam's Sons. 1875.

RESECTION of Metatarsus, Anterior Tarsus, and Parts of Astragalus and Os Calcis. Recovery, with Useful Foot. By S. P. CONNER, M.D., Professor of Anatomy and Clinical Surgery in the Medical College of Ohio, Surgeon to Cincinnati and Good Samaritan Hospitals. With a Wood-cut. Extracted from the "American Journal of the Medical Sciences" for July, 1875.

IRIDOTOMY, and its Applicability to Certain Defects of the Eye. By A. W. CALHOUN, M.D., Professor of Diseases of the Eye and Ear in the Atlanta Medical College. Read before the Georgia Medical Association, at Savannah, Ga., April 21, 1875. Reprint from the "Southern Medical Record." Atlanta, Ga.: 1875.

ELECTRICITY.—The Present Status of Electricity in Medicine, being the Semi-Annual Address before the Rhode Island Medical Society, by WILLIAM F. HUTCHINSON, A.M., M.D., Fellow of the Rhode Island Medical Society, Member of the Minnesota State Medical Society, etc. Providence, R. I. 1875.

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SKIN DISEASE.—Analysis of One Thousand Cases of Skin Disease, with Cases, and Remarks on Treatment. By L. DUNCAN BULKLEY, A.M., M.D., Physician to the Skin Department, Demilt Dispensary, New York; Fellow of the New York Academy of Medicine; Member of the New York County Medical and Dermatological Societies, etc. Reprinted from the "American Practitioner" for May, 1875. Louisville, Ky. 1875.

EIGHTH ANNUAL REPORT of the Board of Health to the Honorable Common Council of the City of Cincinnati, for the year ending December 31, 1874. J. J. QUINN, M.D., Health Officer.

CLIMATE.—The Influence of the Climate of Colorado on the Nervous System. By CHARLES DENISON, M.D., Denver, Colorado. Reprinted from the "Archives of Electrology and Neurology" for November, 1874.

THE EXTENSION WINDLASS. Presented to the American Medical Association, May, 1875. By CHARLES DENISON, M.D., Denver, Colorado. Reprinted from the New York "Medical Journal," May, 1875. New York: D. Appleton & Co. 1875.

AN ADDRESS on the Climatology of Florida, delivered before the Medical Association of the State of Florida, February, 1875. By A. S. BALDWIN, M.D., President.

REPORT of the Board of Managers of the Pennsylvania Hospital, to the Contributors, at their Annual Meeting, held Fifth Month 3rd, 1875.

ADDRESS to the Medical Profession of the State of Georgia, with the Proceedings of the first meeting of the State Board of Health, held in the City of Atlanta, June 9, 1875.

ORATION delivered at the Centennial Celebration of the Mecklenburg Declaration of Independence, at Charlotte, N. C., May 20, 1875. By Hon. JOHN M. BRIGHT, of Tennessee.

PLAIN DIRECTIONS FOR ACCIDENTS, EMERGENCIES, AND POISONS. By a Fellow of the College of Physicians of Philadelphia, and Physician to Several of the Charitable Institutions of the same city. Sixtieth thousand. Distributed to its Policy Holders by the Mutual Life Insurance Company of New York.

PLAIN DIRECTIONS FOR THE CARE OF THE SICK, and Recipes for Sick People. Enlarged Edition. By the same author, and distributed in the same manner as "Accidents," etc.

CATALOGUES and CIRCULARS of Bellevue Hospital Medical College, New York; Medical College of Evansville, Indiana; and the Indiana University, Bloomington.

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NASHVILLE

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Original Communications.

NOTES FROM EDINBURGH.

BY THOS. O. SUMMERS, M.D.

BRITISH MEDICAL ASSOCIATION.

WE are in *Jerusalem!* The tribes are gathering like the clans that once assembled at the sound of the pibroch in these vast wild fastnesses of nature. Edinburgh, the modern Athens, sustains well her medical glory, in the splendid manner in which she this year entertains the British Association, a body of such enormous proportions that it must be with a certain degree of alarm that even the great centres of this

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mighty realm look upon the "selection of a place for the next meeting."

The Association assembled, about eight hundred strong, on Tuesday, August 3rd, in the University buildings, which were elegantly and conveniently arranged for conducting the business without the slightest jar. There was a general reception room, with clerks to perform all the functions of the occasion; rooms for the various Sections; an office for the General and Local Treasurers and Secretaries; rooms for the Editors of the *British Medical Journal* and *The Daily Journal*—the organs of the Association; an inquiry office, a reading and writing room, a post and telegraph office, and a cab office. The Annual Museum was thrown open to the members, and the Practical Chemistry room was arranged for the display of instruments, &c.

The proceedings were duly inaugurated by divine service at St. Giles Church, and a sermon by the celebrated Dr. W. Lindsay Alexander. The opening address of the President, Professor Sir Robert Christison, upon Medical Education, was a laudation of Edinburgh University in particular, and, on the whole, according to our estimate, a very commonplace discourse. The fact is, we have been dosed with disquisitions upon medical education until we feel a tendency to reversed peristaltic action of the œsophagus whenever we hear it mentioned. Of course Sir Wm. Fergusson, Bart., etc., moved a vote of thanks for the marvellous production of human genius. "*Parturiunt montes nascetur ridiculus mus.*"

The reception of Sir Robert in the Music Hall and Assembly Rooms, at 9 o'clock in the evening, was decidedly more appreciated than his address. The space beneath the gallery of the Music Hall was arranged as a drawing-room, while refreshment buffets were placed in the east and west wings, and the orchestra was decorated with palms, dracænas, ferns, and plants in bloom. The company numbered upwards of sixteen hundred ladies and gentlemen. They were received by Sir Robert Christison, Dr. Gillespie, Dr. Lowe, Dr. Batty Tuke, and Bailie Fawse. There was a splendid programme of dance

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music by Mr. Daly's celebrated orchestra from the Theatre Royal, in the Assembly Rooms, and in the Music Hall by the band of the Royal Dragoon Guards.

On Wednesday, the numbers of the Association were increased to nearly two thousand. There was a general meeting in the Chemistry Class-Room, where it was resolved to meet, in 1876, at Brighton, under the Presidency of Sir J. Cordy Burrows.

Then came up the *woman* question: Shall we admit her into the Association? After some skirmishing around the proprieties of the measure, it was decided to obtain, by circular, the opinion of every member—*Yes* or *No*—as to the admission of female practitioners.

The address of Dr. Begbie, on General Medicine, was good. Starting out with a reference to the startling question put by the whilom Professor of Logic in the University of Edinburgh, and answered by him in the negative—"Has Medicine advanced one single step since the days of Hippocrates?"—he proceeded to show, in an elegantly prepared discussion, the falsity of Sir William Hamilton's position, and to establish the true progressive relations of medicine.

In the afternoon some interesting papers were read in the various sections.

The evening was taken up by a *conversazione* given by the College of Physicians at the Museum of Science and Art.

On Thursday things began to look like business. At the Royal Infirmary, at 9½ o'clock, Professor Lister gave a demonstration in Antiseptic Surgery. He introduced a male patient in which he had ligated the external iliac, for aneurism of the upper part of the femoral, *antiseptically*, by means of catgut, dipped in a mixture of oil and carbolic acid. The operation was performed on the 23rd of July, and the wound was *skin whole* in fifteen days, without any suppuration. Two cases were then introduced to illustrate the value of catgut in the arrest of venous hemorrhage. Nineteen days before, he had removed the right mamma from one of the patients. Being very much troubled with venous hemorrhage, after

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several ineffectual efforts to ligate the vein, he had finally threaded a fine sewing-needle with catgut, transfixed the vein, and tied it, with no further trouble from bleeding. The next patient had been operated upon five days before, for varicose tumor in the leg. The transverse wounds were closed in the ordinary way, but a longitudinal one was secured by a fine needle and catgut, with the glovers stitch. Several cases of excision were shown, in which the antiseptic dressings, as claimed by the Professor, had prevented suppuration, and insured a rapid recovery.

Dr. John More, of Belfast, proposed thanks to the Professor as to one who had banished pyæmia from the hospitals.

And now, in the Chemistry Class-Room, the Association assembles to hear the address of Professor Spence on General Surgery. We cannot refrain from giving a brief synopsis of this valuable paper, since it was so full of good hard common sense, that we could scarcely believe that we were listening to the Professor of Surgery in the novelty-loving, discovery-inflated University of Edinburgh.

He began by putting the question of the Preacher, "Is there any thing that is new?" and proceeded to introduce us to the forms of apparatus used in Hippocratic surgery, and knocking off some of the dust, as he said, we recognized the principles of their operation in the modified forms of the present day. In the illustration of surgical progress, he discussed at length the methods of treating fractures by extension and counter-extension, the reproduction of bone, the reduction of dislocations, Esmarch's so-called (sic) bloodless method of operating, and the treatment of croup and diphtheria, between which he drew clearly the lines of differential diagnosis. As he discussed at length Esmarch's method, we were amused at the almost verbal agreement of the lecturer with the article which appeared in this journal some months since, over the signature of the present senior Editor. Having the JOURNAL open before us at the time, we passed it around to show that Jerusalem did not have all the prophets.

In regard to tracheotomy in croup, he remarked that he had

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performed the operation one hundred and three times, and always with relief to the little sufferer, but not always with ultimate success, as in thirty-four of the above cases death ensued. He thought, however, that it was the duty of the surgeon to offer the chance of relief which it afforded.

And now we shall enter somewhat at length into his discussion of antiseptic surgery, as his tilt with Prof. Lister was the most interesting feature of the day.

When we parted with Prof. Gross, in February, at the time of the College of Physicians and Surgeons' Banquet in New York, he said, "You'll smell carbolic acid long before you get in sight of Edinburgh,"—so that we were prepared to have it even served up as sauce at our table in the hotel. Professor Spence, however, spared us that infliction, and, according to our estimate of things, threw *cold water* on Lister, as well as his patients. A *verbatim* report of his argument upon this subject is too extensive for introduction here; we therefore avail ourselves of the very correct *oratio obliqua* of the *Scotsman*, as it appeared the next morning:

Proceeding to speak of the treatment of wounds and surgical dressings, the learned Professor contrasted the old practice, in which stress was laid on digestion, mundification, and incarnation, and no wound was allowed to heal by first intention, with the truly philosophical views of the adhesive process taught by Hunter, and nowhere more intelligently carried out than in Edinburgh, through the influence and the writings of John Bell, Liston, and Syme. The results obtained from the latter system were, he said, excellent, and the system remained in use to the present time. Now, however, they were again in a transition state in regard to the treatment of wounds. The antiseptic method of Professor Lister—(applause)—was being pressed, in some quarters, to the exclusion of conditions which he could not but think at least equally, if not more important, in the treatment of wounds and operations.

The present was not the place, nor was there time, to discuss the germ theory of putrescence, or the general value of the antiseptics now contending for pre-eminence; but some of the statements advanced for the antiseptic system so ignored the effects obtained by the simple dressing and treatment of wounds, and such infallibility was claimed for the effect of the special method, as he felt really required notice. When he read statements that the antiseptic method was to be regarded as one of the most important contributions to modern practice, inasmuch as it made

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wounds heal by first intention, instead of going through the painful processes of granulation and suppuration, he could only regard such statements as arising from want of experience in, or misrepresentation of, the simple method of treating wounds; for assuredly, healing by granulation was neither the object nor the general result of that plan of treatment. Suppuration, he believed, was not unknown in the antiseptic system, whilst the average duration of treatment, so far as he could learn by hospital statistics, was not lessened. But when he found a German professor and hospital surgeon stating that, after a year and a half's experience of the antiseptic treatment, he was able to guarantee with certainty the perfectly successful result of his operation, such an assertion challenged closer examination—(applause)—and one demanded proof on the question how far, apart from other conditions, different modes of dressing stood in the relation of cause to successful results. The answer to this important question must rest on sufficient data—carefully weighed statistics. It would not do to point to some brilliant results in individual cases, because all methods of treatment could produce that kind of proof. Nor would it do to state that no death from pyæmia had occurred under the system. The statistics must indicate the nature of the disease or injury for which the operation had been performed, and the cause of death in fatal cases, not by a conventional term, but by giving the symptoms during life, and the organic lesions found after death. (Applause.) With extensive statistics of this kind, they should be better able to judge of the comparative advantages of different systems.

It was curious that they heard so much of success from abroad; and he thought that sufficient time and scope had been given to the system in this country to enable those who used it to furnish statistics such as he had indicated, and thus enable the profession to judge more dispassionately of its results. In comparing, of late, the results of his own hospital practice, he had been struck with the success which attended a very simple treatment; and this led him to question their progress in departing from it. During three years, out of sixty-three major amputations for disease, there were only three deaths—(applause)—and out of twenty-three cases of excision of joints only two deaths. The treatment consisted in thoroughly washing the surface of the wound by pouring tepid water over it, occasionally applying tincture of iodine on the flap, while the dressing consisted in a fold of lint or thin muslin over the same.

Again, in preparing statistics of his amputations, he found evidence that certain conditions, such as the nature of the disease or injury, had a most important influence on the result; such an influence, indeed, as he could hardly have supposed, till the statistics brought it distinctly before him. His later statistics corroborated his former; so that he could not accept the statement of the learned German professor that any method of dressing, however good, would enable them to guarantee a perfectly successful result in any operation. (Applause.)

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Whilst he spoke of the antiseptic system, meaning the special method, he need hardly say that all surgeons had for their object the avoidance of putrescence, though their views might differ as to the best way of attaining it.

He could not close without recommending the advantage, in treating lacerated wounds and burns of the extremities, of continuous immersion in the tepid bath, and avoidance of all meddling with the injured part, and the agony to the patient caused by the changing of dressings. In the case of burns, especially, its advantages were most conspicuous, for the constant moisture kept the superficial tissue pliable, and motion of the parts could be effected gradually while the limb was immersed in the bath Here the antiseptic method could be carried out most thoroughly, by mixing carbolic acid with the fluid in which the limb was immersed.

The retrospect he had taken showed that, when true principles had been disregarded or lost sight of, they had ultimately had their value recognized, and, modified and improved, had become the advances of the present. So, for the future, he felt confident that all that was true and good in any system might emerge with all the greater beauty and usefulness that it had been purged of its dross by the test of observation and candid inquiry. (Applause.)

Professor McLeod, Glasgow, moved a vote of thanks to Professor Spence for his interesting address.

Mr. T. Spencer Wells, London, in seconding the motion, said they had been fortunate that day in having had an opportunity of listening to everything that could be said on both sides of the question of the treatment of wounds. The antiseptic treatment was carried out by its originators with every possible advantage, and on the other hand, they said that it was criticised in the most fair, but at the same time most just manner. (Applause.)

The President, in referring to Prof. Spence's plea for simplicity, remarked that it reminded him of an old story told of a venerable lithotomist, well known throughout the world, who, on stepping into the lecture-room of a Professor at Brighton, was asked by him to tell the students what sort of knife he would use in the different stages of the operation for lithotomy. Coming slowly to the stand, he replied, "Weel, for the little-bottom anes I use a wee knife, and a big knife for the muckle-bottom anes."

After the reading of this paper we repaired to the physiological section room, where Prof. Burdon Sanderson gave us one of the most beautiful demonstrations we have ever witnessed.

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It was upon the analogy between the electrical phenomena which attend the contraction of the leaf of *Dionœa*, an insectivorous plant, and those which attend the contraction of animal muscle.

Dr. Lyon Playfair, M. P., delivered a very interesting address on the Relations of Government to Public Medicine. Of course we had to take a big dose of hygiene, but it was very well sugar-coated, and went down comparatively easy.

As a matter of course we cannot go into a discussion of the papers read before the various Sections. There was much that was good, and abundance of trash. If you will except the Physiological Section, there is more originality and activity of thought in one of our well-organized State bodies than in all this mighty medical machinery which grinds out dogmas from year to year. We say this at the risk of being for ever ostracised from British medical circles, for, of all organizations in the world, this Association is the most inflated. Verily they believe that "they are the world, and wisdom will die with them." They are patronizingly courteous to their foreign members and visiting brethren; indeed, they are perfect Hezekiahs for showing off their jewelry; and if you will just hurrah for the Queen, and keep your own thoughts in the background, every now and then kissing the shrine of Edinburgh, you'll be a hero here. But the man that asserts that the British Medical Association contributes more to the cause of medical science than her despised sister body across the water, is either a driveling sycophant or a blinded ass. T. O. S.

EDINBURGH, British Medical Association, August, 1875.

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STRICTURE OF THE URETHRA.

BY E. P. SEELEY, M. D., BOWLING GREEN, KENTUCKY.

JOHN H——, aged 35, married, locomotive engineer; first case of gonorrhœa in 1865, the last in 1870; never had syphilis; water stopped, as he called it, first in 1871, next in 1872, and again in 1873. His pulse was a little accelerated, bowels costive, tongue coated, moderate habits, anæmic appearance.

Upon examination I found a fluctuating tumor above pubes, caused by the over-distended bladder. He was bent nearly double, in order to relieve the pressure of the abdominal muscles, and he was even breathing quickly and shortly, so as to avoid their action as much as possible.

He had been relieved of his former retention by hot hip baths and opium, and had tried it faithfully in his present case, but without receiving any relief, and, as he stated, had not passed any urine, except by drops, for a day and a half. Upon examining the urethra with Otis's bulbous bougies, I discovered two strictures, the first half an inch from meatus urinarius, which would only admit a No. 3. Having passed this, at the depth of five inches I found a second stricture, through which, after repeated trials, I was unable to pass the smallest sound. The gentleman was suffering all the agonies of a distended bladder, and importuning me, for God's sake, to find some way to relieve him. I then passed four filliform whalebone bougies, which, although they passed through the first stricture, each caught in some lacunæ, or sac, which had been formed in endeavoring to introduce the catheter. Upon introducing the fifth whalebone bougie, I had the satisfaction of feeling it pass into the cavity of the bladder. I imme-

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diately, following Van Buren and Gouley's instructions, threaded upon this bougie this tunneled catheter, which is about the size of our No. 3, and carrying it down to the face of the stricture, using moderate and steady force, I succeeded, with very little trouble, in reaching the bladder, and drawing off three pints of thick mucous urine, affording my patient great relief.

Telling Mr. H—— that he would have a return of the retention if the stricture were not broken up, he at once agreed to be treated, and three days after this I introduced a No. 4 flexible olive-pointed bougie, continuing the treatment by gradual dilatation—that is, by using a bougie one number larger than I had used at the last sitting, this method of treatment being very highly spoken of by Sir Henry Thompson and others.

My patient, being in active employment on the railroad, afforded me an excellent opportunity of giving this mode of treatment for stricture a good trial, he appearing at my office every four days. On his seventh visit before me, I introduced a No. 14 flexible bougie. (I had almost forgotten to state that I had used quinine and iron internally.) He was now in better health than he had been for months; he was passing his water at regular intervals, and not above the usual number of times in the twenty-four hours. He never gets up at night to urinate.

After being so much relieved, and being in good spirits, he ceased his visits, and it was not until last fall that I again saw the gentleman. In the mean time he had been to Blount Springs, Alabama, and to the celebrated Hot Springs of Arkansas, having been under treatment at both places for his old enemy, but had derived no benefit, his stricture remaining and causing him severe trouble.

He was unable to retain his urine, which flowed from him in a very small stream, and frequently drop by drop, soiling his clothes, and giving to his body and apparel a very offensive odor. He also passed through his urethra, especially when at stool, lumps of mucus, which caused intense spasms,

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lasting for ten or fifteen minutes. His urine, after standing and becoming cool, was thick and jelly-like. With these additions to his symptoms, he was in nearly the same condition as when I first began to treat him, in 1873.

Upon exploring the urethra, I found that the first stricture would admit a No. 7, while the second would only admit a No. 2 olive-pointed bougie. By manipulation and patience—he of course agreeing to let me operate—I succeeded in passing Holt's dilator into the bladder, and by a quick movement I forcibly ruptured the two strictures. Upon removing the instrument, there was a rush of urine, mixed with very little blood. He had no chill or rigors, and no faintness. I then successively introduced Nos. 13, 14, and 15, bougies, proving that both strictures were ruptured.

I continued to introduce Nos. 14 and 15 every four to eight days, for over three months. He was now passing his water naturally, having none of the spasms, and is in excellent health. He has gained so much flesh, that when upon a visit to his parents in Indiana, they scarcely recognized him.

While he gained so rapidly, and was, to all appearances, a perfect picture of rotundity and good living, his urine was loaded with mucus. I know it was simply mucus, because I examined it with the best microscope in the city, and could not detect any pus-cells. I used the test for albumen, but found none. I then gave him a preparation of copabia and cubebs, with directions to drink flaxseed-tea *ad libitum* during the day.

After using this treatment for over three weeks without any diminution in the quantity of mucus, I introduced a No. 8 gum catheter, and used Sir Henry Thompson's injection for the bladder—borate of soda, four grains, to one ounce of water, at the temperature of 90° F. I washed his bladder out with this solution twice a week for a month, and with marked benefit. Meeting my friend Dr. Thomas, I gave him the symptoms of the case, and he advised me to use phosphoric acid and strychnine, which I did, thinking, with him, that there was some spinal complication. I continued the above mixture

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for nearly three months, and with almost an entire cessation of the mucus discharge.

I met this gentleman a few days ago, and he assured me he had had no return of his troubles, and that he only passed mucus when he indulged freely in strong drink, although, upon trial, I could only introduce a No. 10 sound.

DENTAL EDUCATION.*

A PAPER READ BEFORE THE TENNESSEE DENTAL ASSOCIATION

BY S. J. COBB, D. D. S., OF NASHVILLE.

Mr. President and Gentlemen of the Tennessee Dental Association: Having been assigned the duty of reporting upon the subject of Dental Education, I have written a few lines, with a view of eliciting some thought and discussion upon this subject, as I see that many of our best men are very much interested in it just at this time.

It seems that there is more interest manifested in the discussion of this subject at present, than has been for many years; all of which I am glad to see, for I assure you, gentlemen, it is a subject that should always be uppermost in our minds.

The unusual interest felt upon the subject of dental education, at present, seems to have grown out of a few editorial articles in the Philadelphia *Medical Times*, in which the editor says we are not entitled to the name of doctor, as dentistry, in his estimation, is not a specialty of medicine. Upon this subject, I will say, it matters not what the Philadelphia *Times*, or any other medical journal, may say, in regard to dentistry as a

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specialty of medicine; if we continue our progression, in the same direction we have been going for the last quarter or half century, we shall, in time, satisfy the public that we are great benefactors, and in every way worthy of any name or title that we may see fit to take unto ourselves. The fact is, we have already proven our ability to contribute largely to the alleviation of pain and suffering, as well as the restoration and improvement of man's health. If this is not doctoring, I will say it is just as good, whether it has any medicine in it or not.

In considering this part of our subject, we ask what is medicine? Webster styles it the art of preventing, curing, or alleviating the diseases of the human body. We will now ask, what is meant by the word doctor? The same author says it is one who has passed all the degrees of a faculty, and is empowered to practice and teach it; as a doctor in divinity, physic, and law. He says a physician is a person skilled in the art of healing, one whose profession is to prescribe remedies for diseases. Taking Webster as authority, I can hardly see how the *Times* man, or any one else, can refuse to give all educated dentists—one who has taken the degrees of a faculty, and is empowered to practice and teach, and, in so doing, is constantly prescribing, and applying remedies, for the cure and prevention of disease—the title of doctor, or declare that he is not a specialist of medicine. If medicine is to be taken as a basis for the prevention, treatment, and cure of diseases, dentistry certainly comes in for her part of the work, and, in proportion to her success in preventing, treating, and curing diseases, so are we entitled to the name of doctor, or specialists of medicine. I say specialists, from the fact that we confine ourselves to the treatment of special organs. I am inclined to think the editor of the *Times* bases the whole of his argument upon two or three illiberal points; the first of which is, that we have not been taught in medical colleges what we know and practice. The second is, that it is hardly necessary to educate men to practice dentistry, as it can be done by ordinary mechanics. The third is, that a great many who are engaged in it are illiterate and uneducated men. On this, the last

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point alone, he seems to think that he has sufficient evidence to establish the truthfulness of what he has said.

In a recent article he refers to Dr. James Freeman, of Philadelphia, who, in discussing this subject, at a meeting of the Odontological Society, goes as far, if not farther, than the editor of the *Times* in declaring the dental profession unworthy of being called a branch of medicine. That may all be true, and yet fail to establish the fact that dentistry is not a legitimate branch of medicine. The large number that Dr. Freeman says are practicing without having received the degree of D. D. S., have nothing to do with the present standard of the dental profession. It is not the masses of any profession that erect the educational standard. That is always done by the minority, and I might say a few, even of that number, must be held responsible for the work. So I will say if we have only a few well educated men, who have gotten together and erected a standard of education that embraces the knowledge and science of treating and curing diseases of the mouth and teeth, thereby preventing other organs from becoming diseased, and, in so doing, assist in the preservation of the general health, we are certainly worthy of being styled a branch of medicine. That is, if medicine is to be recognized as a general basis upon which man's efforts to treat and cure diseases depend, our standard of education is as full and complete as that of the physician, as far as the treatment of such organs as we propose to treat; and I dare say, those who come up to it are as well calculated to treat successfully such organs and diseases as the physicians are to treat such as they propose.

The fact of our having more irregulars, according to the number engaged in our business, than the physician, is no reason why we should all be wiped out. I presume the medical profession had a larger per centage of irregulars, when only forty years of age, than we have at present. I insist that we shall not be wiped out on account of the large number of *irregulars* engaged in our profession. We are trying to lessen the number every year, and will promise to continue our

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efforts in this direction until something is accomplished, for we are fully sensible of the fact that there is where the fault is—not in our present educational standard, but in not working up to it.

In regard to his second point, I will say that no man, or set of men, can do anything well, who have not been educated and properly trained to the work, especially anything of importance. When it is understood that sound teeth in healthy mouths add ten years to the longevity of man, to say nothing of the additional comfort and pleasure, it is not difficult to see that dentistry is a very important business; and, as such, necessarily requires men educated and trained to the business. No one can practice dentistry well who has no knowledge of anatomy, physiology, pathology, chemistry, therapeutics, and hygiene, to say nothing of the special knowledge of operative and mechanical dentistry. In addition to all these things, materia medica, surgery, microscopy, histology, and metallurgy, are necessarily taught in our dental colleges. To treat any organ, or sets of organs, as should be done, one should know something of the whole organic structure, as the relations and functions of each organ, so as to know something of the influence of diseased organs upon healthy ones. For instance, the influence of carious teeth and an unhealthy mouth upon the general health.

With all the knowledge of physicians, it remains for dentists to explain more fully the relations of the mouth and teeth to the stomach and other organs, so as to see and understand clearly, the influence of carious teeth and unhealthy mouths upon the general system. I have no doubt that there are thousands upon thousands of premature deaths annually, from consumption and other diseases, that are traceable back to carious teeth and unhealthy mouths. The perversion of the fluid of the mouth from a healthy to a vitiated secretion is sufficient of itself, to say nothing of the many aches and pains directly attributed to unsound teeth and diseases of the gums, to break down and destroy the equilibrium of the digestive organs, after which, one is liable to almost any dis-

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ease, especially when there is a predisposition. I say the great number of children who die teething, would not die in the effort to get their teeth, but from the fact that the fluid of the mouth is changed from a healthy to a vitiated secretion at that time.

These, and many other things, evidently show that the organs that we propose to treat are very important. As such, it becomes absolutely necessary that we should be educated and properly trained for the work.

A few words in regard to the first point, which is, that we are not specialists of medicine, from the simple fact that we have not been taught in medical colleges how to practice dentistry. It makes no difference where a person is taught, so he is well taught to do whatever he pretends to do. We have, at present, nine dental colleges in the United States, besides a dental department in the Harvard University, at Boston, Mass. These colleges have been gotten up for the purpose of teaching men how to treat successfully certain organs of the system, so as to promote the general health. The reason why these colleges were gotten up, independent of medical colleges, is, that physicians in this country, thirty-five or forty years ago, seemed to think themselves able to do all that was necessary for man's health. At all events, they were not disposed to divide and subdivide medicine; so we were compelled to resort to independent action, notwithstanding we proposed to treat a part of the same man the physician treats. But, I am glad to say, such is not the case at present, for I am satisfied that a majority of the best informed physicians in America have become convinced that the best way to advance medical science is to divide and subdivide, until each department can be thoroughly mastered.

An evidence of this fact was demonstrated at a meeting of the American Medical Association, last year, when they opened wide the doors to specialists, by passing a resolution recognizing special practice as being legitimate. If physicians had been as liberal forty years ago as now, or, in other words, if they could have seen what they now see, we would have

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been saved the trouble of establishing dental schools independent of medical colleges. While I am of the opinion that we have advanced more rapidly, I am satisfied that every department of medicine should be taught in a medical college, or rather a medical university.

Now that we have clearly demonstrated the importance of human teeth, and the great necessity for educated, scientific men, to assist the people in preserving them, I anticipate no further trouble in forming a partnership with the physician for the purpose of making such arrangements as may be necessary to teach chemistry, with other branches of medicine. In making such arrangements, I fear, gentlemen, we are going to have trouble among ourselves, from the fact that it may be necessary to give up the name of dental profession, which, I know, many would not like to do, after having worked so long and hard for it. Nevertheless, I believe the time is not far distant when there will be a consolidation of the two professions, which, I have no doubt, will, in the end, prove to be advantageous to both physician and dentist. The fact is, there never should have been any cause for an independent specialty of medicine. Everybody knows that the field of medicine is too large for any one man, or set of men, and such should be divided and subdivided, until every nook and corner of the entire premises is thoroughly understood, and well occupied. But, in our many divisions, we must not lose sight of the importance of coöperation. All must work together, if we would accomplish all that medicine is destined to do. In suggesting or advocating the idea of consolidation, or merging into general medicine, I do not propose to discourage *dental college* enterprise, for I am not one of those who believe that we have more colleges, at present, than we need, although I must say that I think one is sufficient for any one State or city at present, and, in all probability, will be for the next fifty or hundred years to come. While there are two in Philadelphia, Baltimore, and Boston, there are other cities, in other sections of the country, where dental colleges, or dental departments in medical universities, are needed; for instance,

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we have the large States in the South, to say nothing of little Florida, where there is no college, or department. There is, again, California, and the whole Pacific coast, without a single dental school of any kind. A Dental Department in a Medical University in San Francisco, California, will, in a few years, become an absolute necessity, and I think I can say with propriety that we need at present a Dental Department in the Nashville Medical University; for it seems to me that this is decidedly the best location in the South for a Dental School; and now that the Nashville Medical College has consolidated with the Medical Department of Vanderbilt University, we hope for an endowment from that institution in case we make an effort to establish a Dental Department. To show that the increased number of dental colleges in the last few years are not in the way of the older ones, and that they are adding largely to the great work that has to be done, we need only refer to such statistics as show a large increase in the number of students in the older colleges, and a very respectable number in the latter. The number of matriculants in the Baltimore College, last year, was forty-one; at the Pennsylvania, seventy-two; Philadelphia, one hundred; New York, seventy; Boston, twenty-four; Dental Department of Harvard University, forty-two; Maryland, eleven; Ohio, twenty-four; Missouri, —; New Orleans, —.

From these statistics it it will be seen that the most flourishing institutions that we have are where they are most numerous. Competition is said to be the life of trade, and, as no one doubts the truthfulness of the saying, we presume it is as applicable to Dental college enterprise as to anything; as such, we can see the necessity for competition. While I do not advocate the necessity of establishing a college in every nook and corner in the country, I am satisfied that two or three more at present would assist very much in accomplishing the work that we propose to do. It is thought by some that we could, and would, be more thorough in our teaching, if we had only two or three colleges, but, I must say, I can not see why that should necessarily be so, for it looks to me

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that the two principal points, thoroughness and numbers, would as likely be obtained by competition as by endowment. But, admitting the possibility of a few endowed institutions becoming more thorough in their teaching than a larger number conducted upon a self-sustaining principle, we must not ignore the fact that ten or fifteen colleges are much more likely to get at the masses, who are entering our profession, than two or three endowed colleges. While thoroughness is of very great importance, it is of equal importance that we should manage, in some way, to educate all who engage in our profession.

When we have managed to get our entire profession thoroughly interested upon this subject, we will then be better able to enforce such rules of thoroughness as we may desire.

In conclusion, I will say, that it would be well for all our Dental Societies to take an active interest in this matter. In this way we may, after a while, get the masses of our profession pretty well interested in Dental education.

REPORT OF A CASE OF SYPHILIS,*

TREATED BY HYPODERMIC INJECTION OF CORROSIVE SUBLIMATE.

BY E. P. SEELEY, M. D., BOWLING GREEN, KENTUCKY.

Mr. President and Members of the Society:—I have an interesting case to report of the treatment of syphilis by hypodermic injection of corrosive sublimate.

The patient, a colored man, about forty-three years old, has always been healthy. He received the contagion last April, about the 18th. A sore appearing upon the mucous membrane, behind the glands, which had all the character of a

* Read before the Warren County (Ky.) Medical Society.

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true syphilitic chancre: edges sloping and hard, surface hollowed out; hard, indurated, and movable upon the tissues beneath.

As I had been reading Lewin, of Berlin, who was the first, I believe, to introduce this method of treatment, and I thought the patient before me would be an excellent subject to give the method a trial, I simply cauterized his chancre, and told him to call next day, while I, in the meantime, had the following solution of sublimate prepared: four grains to one ounce of distilled water.

Was next day at my office, according to promise, which was the third day of May. I stripped off his shirt and introduced ten drops of the solution in the infrascapular region. There was very little pain, although there was a small hard lump left at the point where I introduced the syringe. I again dismissed my patient, telling him to call on the morrow, which he did.

He informed me that he had experienced no trouble, ate his usual meals, slept well, and did not feel any way uneasy. At the point where the syringe was introduced was still a knotty hardness, but no tenderness upon pressure or manipulation. I again used the solution, and continued to do so until the sixth day, using the same amount, ten drops each time. Upon that day I had to cease, on account of the excessive irritability of my patient's stomach. It was almost impossible for him to retain anything, even small pieces of ice, and he was constantly retching and suffering from the most intolerable nausea. Rest in bed, with warm clothes and mustard plasters to the epigastrium, and ice to the spine, relieved him of these distressing symptoms. On the 11th of May I again began my injections, and continued using them until the 28th, when I discharged him, to all appearance well, and so far he has had no return of the disease.

I intended, and will at some future time, show this patient to the members, and I want them to take notice of the knotty hardness at the point where the syringe was introduced, and the remains of a chancre upon the penis.

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ANATOMY AND PHYSIOLOGY:

AN ADDRESS to the Anatomical and Physiological Section (Department of the Biological) of the British Association. Bristol, August 25, 1875.

BY PROF. CLELAND, M.D., F.R.S, VICE PRESIDENT OF THE SECTION.

I shall not venture to occupy the time of the Section with any *résumé* of the work done in Anatomy and Physiology during the past year, as such information is readily accessible in the pages of journals and year-books. I shall content myself with making some comments on the condition of Anatomy at the present time in a few important particulars.

I had intended to speak also of some subjects connected with Physiology; but I find that I can not do so without lengthening my remarks to a greater extent than might be desirable. I shall be content, therefore, so far as that science is concerned, to mention that, although Experimental Physiology is probably less cultivated in this country than in any other in which Biology is studied, it has been practically decided by Parliament that it is quite time to put some check on investigation in that direction; for, as every one knows, a Royal Commission has been appointed to inquire into vivisection. In the scientific world all are agreed, whatever opinions may prevail in other sections of the community, that the man who would wantonly inflict pain on a brute beast is himself a brute, and deserving to be roughly handled; and because there is no difference of opinion on that subject, and because no experimental science can well prosper if one man is to judge for another what experiments are justifiable to institute or to repeat, or are likely to give important results, I do deplore the clamour which well-meaning persons have raised, and regret that it has been so far yielded to.

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In Anatomy the most important progress in recent years has been made in those departments which abut most closely on Physiology, namely, the microscopy of the tissues and development. The whole conception of the nutrition of the body has become altered in comparatively recent years by the additions to our knowledge of the nucleated corpuscles, which are the living elements of which it is composed; and principally by the recognition of the secondary nature of cell-walls, the close connection or even continuity of the nerves with other textures, and the identity of the white corpuscles of the blood with amœboid or undifferentiated corpuscles outside the vessels. The origin of every living corpuscle from corpuscles preëxisting is no longer difficult to imagine, but may, I incline to think, be almost looked on as proved. The history of each may be traced back through conjugated germs to the corpuscles of preceding generations in uninterrupted succession, and the pedigree of the structural elements is seen to differ in no way from that of individual plants or animals. It is true, indeed, that no absolute proof exists that new living corpuscles originating by mere deposit are not added to the others; but the evidence of such a thing taking place is exactly of the same description as that which exists against spontaneous generation of independent organisms, namely, that things previously unexplained by the theory of parentage are explained now, while, on the other hand, there is no sufficient evidence of the origin of life by any other mode.

The advance of Histology in recent years is owing in part to the facility of obtaining good microscopes at moderate prices having brought the study within the reach of a great and increasing crowd of observers. At first the progress of Histology was influenced by the steps of improvement in the manufacture of microscopes; but now, for a number of years back, we have been in possession of instruments thoroughly suited for the investigation of tissues; and I think it will be generally admitted that the highest powers which have been manufactured are not those which have advanced discovery most, or are most likely, in the present state of science, to

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yield the richest harvest. We appear to be more dependent now on new methods of preparation. Thus, if we go back for a considerable number of years, we cannot but remember what a valuable addition glycerine proved when it came first into use, and what a harvest of discovery followed the introduction of chromic acid. More recently, the methods of transparent injection, of preparing sections by imbedding, the freezing of tissues, the use of carmine and other pigments for staining, the resort to metallic depositions by the use of osmic acid, silver and gold, and a variety of other additions to our means of preparation, have produced results of an astonishing kind, which have changed the whole aspect of histology from that which it wore when I myself first took an interest in the subject.

Leaving Histology, I shall devote the rest of my remarks to the morphology of the *Vertebrata*. Here I am less disposed to indulge a gratulatory vein. No doubt within the last dozen years we have had work to be grateful for. Worthy of a prominent place in this, as in other departments of anatomy, is the encyclopædic work, the "Leçons" of Milne-Edwards, invaluable as a treasury of reference to all future observers; while the memoirs of Gegenbaur on the carpus, on the shoulder-girdle, and on the skulls of Selachian fishes, and Kitchen Parker's memoirs devoted to mature forms, may be taken as examples that morphological problems suggested by adult comparative anatomy have not lost their attraction to men capable of elaborate original research. And I the more willingly select the names of these two writers, because on one subject on which they have written, the shoulder-girdle, I am compelled to differ from their conclusions and to adhere rather to those of Owen, so far as the determination of the different elements in fishes is concerned; and by stating this (although the subject cannot be now discussed) I am enabled to illustrate that the appreciation of the value of elaborate and painstaking work is a matter totally distinct from agreement with the conclusions which may be arrived at in the investigation

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of complicated problems, although wisdom and penetration as to these must ever command admiration.

But when one looks back on the times of Meckel and Cuvier, and on the activity inspired by the speculations of the much-abused Oken, the writings of Geoffroy St.-Hilaire, the less abstrusely speculative part of the works of G. C. Carus, and the careful monographs of many minor writers; when one reflects on the splendid grasp of Johannes Müller, and thinks of the healthy enthusiasm created in this country for a number of years by Owen's "Archetype and Homologies of the Vertebrate Skeleton," and then contemplates the state of vertebrate morphology at the present moment, it seems to me that its homological problems and questions of theoretical interest do not attract so much attention as they did, or as they deserve.

There can be no doubt that a great and curious influence has been exercised on morphology by the rise of the doctrine of the origin of species by natural selection. Attention has been thereby directed strongly for a number of years to varieties; and probably it is to this doctrine that we owe the large number of observations made on variations of muscles, nerves, and other structures. Particularly elaborate have been the records of muscular variations, very praiseworthy, interesting to the recorders, very dry to most other people, and hitherto, so far as I know, barren enough of any general conclusions. So much the more credit is due to those who have worked steadily in faith that beauty will emerge to gild their results some day.

But the doctrine of Natural Selection has had a further effect in anatomical study, aiding the reaction against the search for eternal laws or plans regulating the evolution of structures, and directing attention to the modifying influences of external agencies. This effect has happened naturally enough, but it has been far from just; rather is it a pendulum-like swing to another extreme from what had previously been indulged in. The doctrine of natural selection starts with the recognition of an eternal formative force which is hereditary; and in the development of the doctrine, the limits of hereditary resem-

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blance have been greatly studied; and further, it will be observed that one of the fundamentals of the doctrine is, that the formative force alters its character gradually and permanently when traced from generation to generation in great tracts of time. Now I am not going to enter on a threadbare discussion of the origin of species in this company; suffice it to say that, while the existence and extensive operation of such a thing as natural selection seems to have been convincingly proved, it is a very different thing to allege that it has been the sole, or even the principal agent in producing the evolutions of living forms on the face of the earth. So far as Anatomy is concerned, it is a secondary matter whether the link between the members of the evolving hosts of life have been genetic or not. But I wish to point out that, even pushing the Darwinian theory to the utmost possible extreme, the action of external agents infers the existence of something acted on; and the less directly they act, the more importance must be given to the hereditary or internal element. We are therefore presented with a formative force, which exhibited itself in very simple trains of phenomena in the first beginning of life, and now is manifested in governing the complex growth of the highest forms. We are set face to face with that formative force, and are obliged to admit its adherent capability of changing its action; and that being the case, is it more of an assumption to declare that the changes are all accidental and made permanent by accident of external circumstance, or to consider that it has been the law proper to this force to have been adequate to raise forms, however liable to modification by external circumstances—to raise them, I say, from the simple to the complex, acting through generations on the face of the earth, precisely as it acts in the evolution of a single egg into an adult individual? This is the formative force which has been elaborately shown by Mr. Darwin, in launching his theory of "pangenesis," not only to be conveyed through whole organisms and their seed, but to pervade at all times the minutest particles of each; and I merely direct attention to the fact that its extension over the whole history of life on

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the globe must be granted, and ask if, in the range of forms which furnish at the present day an imperfect key to the ages which are past, there is not exhibited a development comparable, in its progression to definite goals, with what is shown in the life of a single plant or animal. For my own part, I am fully convinced of a unity of plan running through animal forms, and reaching, so far as the main line is concerned, its completion in the human body. I confess that I think that there is evidence that animal life has reached its preördained climax in humanity; and I cannot think it likely that, as myriads of years roll on, descendants differing *in toto* from man will be developed. To argue the subject would be to enter on the largest subjects of morphological anatomy, and on speculations on which agreement could not be expected. Even, however, in the nature of the variations in the human race there seems to be some evidence that the progress of evolution is to be traced from man, not to other animal forms yet to appear, but, through his psychical nature, into the land of the unseen. Those variations, keeping out of view differences of bulk and stature, which appear to have some relation to geographical position, are principally to be found in the head, the part of the body most closely connected with the development and expression of the mental character; and I may mention that when, some years ago, my attention was directed to the variations of the skull, the only part whose variations in different races I have had opportunity of studying with any degree of minuteness, I became satisfied that in uncivilized races there might be distinguished skulls which had undergone hereditary degeneration, others which had reached the most advanced development possible for them, and a third set, notably the Kaffirs, with large capabilities for improvement in the future. Indeed it is beyond doubt that there is a limit for each type of humanity beyond which it cannot pass in the improvement of the physical organization necessary for mental action*.)

* I allude to the circumstances—that under the influence of civilization

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There are also some curious indications in human structure of the formative force nearing the end of its journey. In the details of the skeletons of other animals one sees the greatest precision of form; but there are various exceptions to this neatness of finish in the skeleton of man, and they are found in parts specially modified in connection with the peculiarities of his development, and not requiring exactness of shape for physiological purposes; while, on the other hand, physiognomical mould and nicety of various physiological adaptations are found in perfection. Look at the variations in the breast-bone, especially at its lower extremity, which is never shapely, as it is in the lower animals. Look at the coccygeal vertebræ; they are the most irregular structures imaginable. Even in the sacrum and in the rest of the column the amount of variation finds no parallel in other animals. In the skull, except in some of the lowest forms of humanity, the *dorsum sellæ* is a ragged, warty, deformed, and irregular structure, and it never exhibits the elegance and finish seen in other animals. The curvature of the skull and shortening of its base, which have gradually increased in the ascending series of forms, have reached a degree which cannot be exceeded; and the nasal cavity is so elongated vertically, that in the higher races nature seems scarcely able to bridge the gap from the cribriform plate to the palate, and produces such a set of unsymmetrical and rugged performances as is quite peculiar to man; and to the human anatomist many other examples of similar phenomena will occur.

Questions of homology are matters which must be ever

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the length of the base of the skull does not increase, but positively decreases; that the proportion of the extent of the arch to the base has strict limits; that the curvature of the base in some uncivilized races falls slightly short of the normal; that in others it transcends the normal by a peculiar process of degeneration between the sphenoid and ethmoid; and that increased capacity of the cranial cavity in the progress of civilization is obtained almost entirely by increase of breadth and by the rounding out of those flat surfaces above and below the temporal ridges which give savage skulls a roof-like appearance. (See "Inquiry into Variations of Skull," Phil. Trans. 1870.)

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present in the study of structure, as distinct from function—both the correspondence of parts in one species to those in others, and the relations of one part to another in the same animal; and perhaps I shall best direct attention to the changes of opinion on morphological subjects in this country during the last twenty-five years by referring shortly to the homological writings of three eminent anatomists—Professors Owen, Goodsir, and Huxley.

For the first time in English literature the great problems of this description were dealt with in Professor Owen's work already referred to, published in 1848; and it is unnecessary to say that, notwithstanding the presence of unquestionable errors of theory, that work was a most valuable and important contribution to science. The faults in its general scope were justly and quietly corrected by Goodsir at the meeting of this Association in 1856 in three papers, one of them highly elaborate; and in these he showed that the morphology of vertebrate animals could not be correctly studied while reference was made exclusively to the skeleton. He showed the necessity of attending to all the evidence in trying to exhibit the underlying laws of structure, and especially of having constant regard to the teachings of embryology. Among the matters of detail which he set right it may be mentioned that he exposed the untenability of Professor Owen's theory of the connection of the shoulder-girdle with the occipital bone, and pointed out that the limbs were not appendages of single segments corresponding with individual vertebræ. Referring to the development of the hand and foot, he showed the importance of observing the plane in which they first appear, and that the thumb and great toe are originally turned toward the head, the little finger and little toe toward the caudal end of the vertebral column. But he probably went too far in trying to make out an exact correspondence of individual digits with individual vertebral segments, failing to appreciate that the segmentation originally so distinct in the primordial vertebræ becomes altered as the surface of the body is approached—a truth illustrated in the vertebral columns of the plagiostoma-

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tous fishes, in the muscle-segments over the head in the pleuronectids, and in the interspinal bones bearing the dorsal and anal fin-rays of numbers of fishes, but, so far as I know, not hitherto sufficiently appreciated by any anatomist.

Goodsir also exploded, one would have thought forever, the erroneous theory of the correspondence of the mammalian tympanic plate with the quadrate bone of birds and the suspensorium of fishes, directing attention to the neglected but just appreciation by St.-Hilaire of the homological importance of the ossicles of the ear, and to the embryological work of Meckel and Reichert. But undoubtedly he fell into great mistakes of his own in matters of detail connected with the exceedingly difficult question of the correspondence of the bones of the skull, the principal of these probably being an unfortunate notion that the *great frontal* of fishes was a bone which disappeared from the skulls of mammals, a notion which spread its influence over his determination of a number of other elements, and introduced a confusion which made his paper on the skull hard to understand.

In 1858 Professor Huxley delivered his Croonian Lecture on the vertebrate skull, and in 1863 his lectures at the Royal College of Surgeons on the same subject. He profited by the wisdom of Goodsir, and studied the works of Rathke, Reichert, and other embryologists. But, rightly or wrongly, he took a step further than Goodsir. He assumed from the first that the homologies of adult structures could be determined by development, and that by that study alone could they be finally demonstrated. As regards the skull, the constitution of which always remains the central study of the vertebrate skeleton, his writings marked the introduction of a period of revulsion against not only the system of serial homologies previously suggested, but even against any attempt by the study of the varieties of adult forms to set them right. Mr. Huxley has added materially to the previously existing number of interpretations as to what elements correspond in different animals, and in doing so has found it necessary to make various additions to the already troubled nomenclature. Those who

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consider these changes correct will, of course, see in them a prospect of simplicity to further students; but to those who, like myself, have never been able to agree with them, they are naturally a source of sorrow. Among the changes referred to may be mentioned the theory of the "*periotic bones.*" That theory I venture to think a very unfortunate one, introducing a derangement of relations as wide spread as did Goodsir's theory of the frontal bone. And do not think me persumptuous in saying so, seeing that this theory is in antagonism with the identifications of every anatomist preceding its distinguished originator, not excepting Cuvier and Owen; nor is it easy to discover what evidence it has to support it against the previously received decision of Cuvier as to the *external occipital* and *mastoid* of fishes. Without entering into the full evidence of the subject, it may be stated that, so far as this theory affects the *alisphenoid* in the skull of the fish, it must be given up, and the determination of Professor Owen must be reverted to, when it is considered that in the carp the third and fourth nerves pierce what the anatomist terms the *orbitosphenoid,* the bone which is *alisphenoid* according to the theory which terms the *alisphenoid* of Owen the *prootic.* A proof still more striking is furnished by *Malapterurus* and other Silurids, in which the bone in question is pierced by the optic nerve. That being the case, the prootic theory will be seen to have arisen partly from giving too much importance to centres of ossification, and partly from considering the nerve-passage in front of the main bar of the *alisphenoid* of Owen as corresponding with the *foramen ovale* of man rather than with the *foramen rotundum* and sphenoidal fissure. A spiculum, however, separating the second from the third division of the fifth nerve, and having therefore the precise relations of the mammalian *alisphenoid,* does exist in the carp and other fishes. But in reptiles Professor Huxley's determination of the *alisphenoid* is right, and Professor Owen's clearly wrong; for in the crocodile the *alisphenoid* of Huxley and others is perforated by the sixth nerve, so that it cannot have any claim to be called *orbitosphenoid.* I must, however, maintain against

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Professor Huxley's view Professor Owen's determination of the *nasal* in fishes, notwithstanding that Professor Owen has failed to appreciate the exact relation of that bone to the nasals of mammals, and has thereby laid his position open to attack. The arguments on that point Professor Huxley was good enough to lay before the public fourteen years ago, by kindly reading for me before the Royal Society a paper which subsequently appeared in its *Transactions;* and I am not aware that any one has since attempted to controvert them.

I shall not trouble you further with such matters of detail; but it will be clear from what has been said that the beginner in comparative anatomy must at the present day find himself at the outset, in the most important part of his osteological studies, faced with a diversity of opinion and confusion of nomenclature sufficient to produce much difficulty and to have a repelling effect on many minds. Such difficulties might well be encountered with enthusiasm where a belief existed that behind them lay a scheme of order and beauty; but not many will spend time investigating such intricate details if they doubt the interest of the general conclusions likely to be reached by mastering them. On this account it is a great pity that the scepticism generated partly by the difficulties of the subject, and partly by reaction from the dogmatism of the admirers of Oken, does too frequently discourage the investigation of the serial homologies of the parts entering into the segments of the skull, and the determination of the nature and number of those segments. It is a pity that no such clamour has been made for a number of years against the expression "vertebral theory of the skull," because fighting against words is but stupid warfare at the best, and because all that was really meant, and that could be justly stated, could have been brought into prominence without objecting to a time-honored phrase. It is questionable if any one who ever used the convenient term "vertebral theory," meant to indicate more than a certain community of plan on which were built the segments of the skull as well as those of the spinal column; that, in fact, the two constituted one complete chain,

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of which the first few segments were so different from the rest that, till Oken pointed the fact out, it was not recognized that they were segments lying in lineal continuity with the rest. But the matter has recently stood thus:—that to some minds, in the imperfect state of our knowledge, one thing seemed essential to a segment comparable with the rest, and to others something else seemed requisite; and the oddity of the position of affairs is this, that the objectors to the phrase "vertebral theory" have been as crotchety in setting up imaginary essentials to a segment as their neighbors. On the one side we were taught to expect certain definite osseous elements in each segment, to which definite names were given; while, on the other, in opposition schemes, centres of ossification have been built on as matters of primary consequence, although a glance at the modifications in the vertebral column proper might convince any one that they are things of the very slightest importance morphologically. Also those who have objected to speaking of cranial vertebræ have put great importance on the point at which the *chorda dorsalis* terminates, although it has been long known that in one animal the *chorda dorsalis* runs right on to the front, that in others it fails to enter the skull at all, while in the majority it passes for a certain distance into the base. Johannes Müller, on such grounds, concluded, thirty years ago, that the presence of *chorda dorsalis* was not necessary to constitute a cranial vertebræ; and there seems no reason to doubt that he was right. Looking at the early embryo, the cerebro-spinal axis is seen to be one continuous structure; and the walls of the canal containing it are likewise manifestly continuous, not at first distinguishable into a spinal and a cranial portion. Looking at the adult condition, in the higher classes the vertebræ of the tail are seen dwindling into mere bodies developed round the *chorda dorsalis*, and giving off rudimentary processes without separate centres of ossifications, while towards the head the bodies diminish and the arches enlarge; and in the skull the *chorda*, round which the bodies in the rest of the column are developed, comes to an end, and the neural arches are enormously enlarged and

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have additional centres of ossification, precisely as in the mammalian thorax costal centres of ossification are found which do not exist in the costal elements of cervical vertebræ. It would therefore be quite as justifiable to object to the term vertebræ as applied to a joint of a tail because it has no *laminæ*, or none with separate centres of ossification, as to object to its applicability to segments of the skull because the *chorda* is absent, or osseous elements different in number from those found in the segments of the trunk.

However, it is gratifying to observe that among the most recent additions to morphological anatomy there is a highly suggestive paper by Professor Huxley, appearing in the Royal Society's "Proceedings" for December last, and entitled "Preliminary Notes upon the Brain and Skull of *Amphioxus lanceolatus*," in which the learned Professor, who has for many years been the most determined opponent to the mention of cranial vertebræ, declares, so far as I can apprehend his meaning, that the region of the head represents no less than fourteen segments, all of which he terms *protovertebræ* in *Amphioxus*. This determination of correspondences is made the more remarkable by being followed up with a suggestion that the numerous protovertebræ lying in front of the fourteenth in *Amphioxus* are represented only by muscles and nerves in the higher vertebrates.

I hail this paper as being practically at last an ample acknowledgment that there is no escape from admitting the correspondence of the region of the head with the segments of the trunk: but the details of the new theory scarcely seem convincing; and I might have preferred to leave its discussion to others, were it not that the notions which it opens up are far too important to allow it to be passed over in any account of the present state of opinion on the subject of vertebrate morphology. The argument in this new theory runs thus: that the palate-curtain of *Amphioxus* is homologous with that of that of the lamprey, and that the palate-curtain of the lamprey is attached below the ear; that therefore all the seven segments seen in front of the palate-curtain of *Amphioxus* are

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represented by parts in front of the ear in the lamprey and the other Vertebrata. Again, the branchial arches of the higher Vertebrata are assumed to be of the nature of ribs, and in none of the Vertebrata next above *Amphioxus* "are there more than seven pairs of branchial arches, so that not more than eight myotomes (and consequently protovertebræ) of *Amphioxus*, in addition to those already mentioned, can be reckoned as the equivalents of the parachordal region of the skull in the higher vertebrates." Everything, observe, depends on segment to which the palate-curtain of *Amphioxus* belongs. Now I have already pointed out to you that the segmentation of the vertebrate body is not perfect; and there is no method by which the alimentary canal, of which the mouth and palate are the first part, can be divided into segments corresponding with the cerebro-spinal nerves. Most certainly we cannot judge that a portion of the viscus belongs to a particular segment from its lying underneath some other structure in definite relation, like the ear, to the cerebro-spinal system; for then should we be obliged to grant that one half or more of the heart belongs to segments in front of the ear, since it is undoubtedly so situated in a chick of the thirty-sixth hour. But the branchial arches are in front of the heart, and, according to the theory which we are considering, are behind the ear; thus the principle assumed in the starting-point of the theory is taken away.

Again, it is important to observe that the branchial skeletal arches cannot be ribs, for they lie internal to the primary circles of the vascular system formed by the branchial arteries and veins, while the ribs are superficial to both heart and aorta. If the ribs are represented at all in the branchial apparatus (and I doubt it very much), it is by the cartilages superficial to the gills in sharks, rays, and dog-fishes; and it would seem impossible for any one who has dissected them to doubt that those cartilages are homologous with the branchial skeleton of the lamprey, which they somewhat resemble. In fact if the external and internal branchial openings of the

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lamprey be enlarged, its gills are reduced to a form similar to those of the shark.

There is nothing in this, however, which interferes seriously with the proposed theory of the skull. It is merely a point in the argument which I have thought right to clear. More important it is to remark that, on the supposition that numerous protovertebræ are represented in the region of the head, there are most serious difficulties interfering with the idea that they are, as Professor Huxley states, "represented only by muscles and nerves in the higher Vertebrata," and that there is any correspondence between "the oculo-motor, pathetic, trigeminal, and abducens nerves with the muscles of the eye and jaw" and the regular nerves and muscle-segments of the fore part of *Amphioxus*. Even in the lamprey the eyeballs are supplied with muscles similar to those to which, in other vertebrates, the oculo-motor, pathetic, and abducens are distributed; and I find in the large species that, notwithstanding this, the series of regular muscle-segments is continued over the head, not indeed in the same way as in *Mixine*, but in a highly instructive and curious manner. The five foremost muscle-segments have their upper extremities attached considerably in front of the nasal opening by a short tendon, which touches its fellow in the middle line; and extending thence in an outward and backward direction they pass behind the eyeballs, the first two running in front of the first gill-pouch, and the third lying over it. Therefore, in this instance, as surely as the nostril is in front of the eye, so surely the upper extremities of these muscle-segments are shifted forwards out of their morphological place, probably in connection with the great protrusion of the jaws for the physiological purpose of forming a sucker. There is no escape from granting this shifting, even were it possible to believe that the eyeball could be further forward than the nostril; for while the fifth muscle-segment can be traced in front of the nostril, the sixth occupies the interspace between the skull and the first vertebra, so that if the muscle-segments are taken as a guide, the whole skull, forward to the nostril, belongs to one intersegmental space, a view

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which is clearly absurd. The succeeding inter-muscular septa correspond each with a cartilaginous vertebral arch; and it is interesting to observe that the branchial cartilages are not placed one for each septum, like the fibrous representatives of ribs detectable within the septa; for the second cartilage is opposite the sixth septum, the third opposite the ninth, the fourth opposite the eleventh, the fifth opposite the thirteenth, and the sixth and seventh opposite the fourteenth and fifteenth septa; and this is one reason for doubting that even these superficial branchial cartilages, though attached to the vertebral column, are to be regarded as ribs.

It may be noticed as a wholesome symptom in anatomical speculation, that the new theory which has led to these remarks is founded on arguments drawn altogether from comparison of different species, and not from embryology, a very remarkable circumstance as coming from one who so lately as last autumn reiterated in this Section his slowness to believe in reasonings founded on adult forms, and even on "later development." The wisest know so little, that humanity must be content to gather information from every possible source, and leave no set of ascertained facts out of view in attempting to arrive at generalizations. If we had before us all the adult anatomy of every species that ever lived on the earth, we should only then have the record completed from which to frame a full system of morphology; and as matters stand we must translate embryological phenomena with the aid of the series of adult forms, as well as translate the teachings of the adult series with the aid of embryology.

Falling back on my proposition, that the segments of the vertebrate body are nowhere complete, and that segmentation at one depth may exist to a greater extent than at another, I may mention certain embryological phenomena in the brain, which have received too little attention, and which to some extent warrant belief in a larger number of segments in the head than is usually admitted; although I do not see that they are necessarily at variance with that theory of seven segments in every ossified skull which I indicated in 1862. In the chick,

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in the middle of the second day of hatching, already is the third cerebral vesicle divided into a series of five parts, separated by slight constrictions, the first part larger than those which succeed, and the last part narrowing to the spinal cord. The auditory vesicle lies opposite the constriction between the fourth and fifth parts. At the end of the second day and during the third, these divisions assume dimensions which give them a general appearance exceedingly similar in profile to the protovertebræ of the neck. In the following day they exhibit a more complex appearance, and after that the first compartment alone remains distinct as cerebellum, while the divisions between the others disappear in the thickening of the cerebral walls. In their first two stages, Mr. Huxley, whom I have already referred to so often, has figured these crenations, but he has not, so far as I know, described them.

I may also direct attention to another embryological point, to which I referred last year at Belfast as a probability. I speak now from observation. That which is termed the first cerebral vesicle in the early part of the second day of hatching of the chick, is an undifferentiated region of the brain from which a number of parts emerge successively from behind forwards. As early as the thirty-sixth hour the optic nerves can be traced, separated from the rest of the vesicle by distinct elevations of the floor of the brain, reaching inwards to the constriction between the first and second vesicles; and as early as this date the first trace of bifidity of the brain in front may be discerned—that bifidity which, to my thinking, is only one of several instances of longitudinal fission in the fore part of the head, the trabeculæ presenting another instance of the same thing, and the cleft between the maxillary lobe and the part of the head above it a third; while in the muscular system such longitudinal cleavage or fission is common even in the trunk. In a chick of the third or fourth day, when rendered very transparent, the optic nerves can be seen extending from beneath the front of the optic lobes; while in front of the optic lobes there are placed in series from behind

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forwards a posterior division of the first vesicle, an anterior division, the cerebral hemispheres, and the olfactory lobes. Thus there is a large supply of material presented in the brain for the study of segmentation; the difficulty to be overcome by future inquiry and careful collation of all available facts is to determine the value of the parts placed one in front of another.

Perhaps I have occupied time too long with matters involving a large amount of technical detail; but I trust that I have, in some measure, illustrated that both in aim and in accomplished work Anatomy is no mere collection of disconnected facts, no mere handmaid of the physician and surgeon, nor even of Physiology. I do not doubt that it is yet destined, as dealing with the most complex sequences of phenomena, to take the highest place among the sciences as a guide to Philosophy. One cannot help noticing the increased importance now given to Natural-History studies as a part of education; and it is worth while to note that it is most of all in Anatomy and Physiology that the close connection of matter with mind are brought under review,—Physiology exhibiting the relations of our own mental being to our bodies, and Anatomy revealing a body of organized nature, whose organization points to a source of beauty and order beyond.

The people of Bristol do well to rally round their Medical School. They do well to furnish it with buildings suitable for the prosecution of all the Natural-History studies which adhere to medical education; and they do well to join with that school a complete College of literature and science. Let us hope that they will make it worthy of so wealthy and historic a city. But if they will have their medical school the success which in so flourishing a locality public enthusiasm may well make it, and if they will have it aid as well as be aided by a school of general education, let them follow the system latterly adopted in Oxford and Cambridge, long carried out in the Universities of Scotland, and recognized, though not in all instances sufficiently provided for, in Ireland. Let Anatomy, human and comparative, receive its place as an important and fundamental science. Let thorough and adequate provision be

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made for its being taught as a science; and see that it do not, as in too many medical schools which shall be nameless, degenerate to the etymological and original meaning of the word, a mere cutting up of carcasses.

Selected Articles.

RECENT PROGRESS IN THERAPEUTICS.

BY ROBERT AMORY, M. D.

IODIDE OF POTASSIUM.

Investigations by Hoppe-Seyler, as observed by Dr. Kämmerer, (*Archiv der praktische Arzt*, xv., 81) have shown that the Oxyhemoglobine is an unstable combination of oxygen with the red corpuscles of the blood, and that oxygen will readily give up this combination when a substance having a stronger affinity for it is introduced into the blood. The characteristics of the oxygen in the blood resemble those of ozone. Kämmerer observes also that the best test for ozone is furnished in the evolution of iodine from iodide of potassium in the presence of starch; the presence of free iodine is determined by its characteristic blue tint. On the other hand, the more stable combination of iodine and sodium known as iodide of sodium, can undergo no change in the stomach; as it is neither decomposed by the hydrochloric acid present in the

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stomach, nor decomposed and precipitated by the albumen compounds, such as starch or sugar, which may be present in that organ. Thus iodide of potassium passes into the blood in an unaltered form. The free carbonic acid in the blood will then cause a decomposition of the diluted iodide of potassium, producing hydriodic acid and bicarbonate of soda; consequently iodine will be set free. Again, hydriodic acid dissolved in the blood becomes oxidized, and gives out free iodine. The free iodine will then act only on the organic compounds, and especially on those whose combination is the most complex. These latter are, first, the compounds produced by miasma and the ferments; next, the fibrin and its allied elements. Moreover, by the decomposition of the iodide of potassium, potassium peroxide is formed; and this latter agent has the power of oxidizing organic compounds, producing in turn potassa; and, by combination with carbonic acid, carbonate of potassa. In this way a theory of the action of these salts may be formed: by supposing the organic constituents of the blood to undergo oxidation, and thus to facilitate the oxidation of the tissues.

PHOSPHORUS.

The Practitioner for January, 1875, contains an article by Dr. W. H. Broadbent on the therapeutical uses of phosphorus in certain affections of the nervous system. His experience with this agent leads him to think it is not useful in those forms of neuralgia in which a touch, or a movement, or a breath of air affecting a nerve-area—usually the inferior divisions of the fifth pair—sends a dart of exquisite pain along the nerve and to its other branches. Dr. Broadbent found that some very serious cases of patients reduced by an extreme alteration of the blood (one case of leucocythemia splenica, another called by Trousseau essential anæmia), which did not mend under treatment by iron, improved very greatly in general condition and in color of complexion when phosphorus was given. Two patients afflicted with what the author calls anginoid pain, one of whom had also organic desease of the

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heart, were relieved of the neuralgia, and improved in general health and appearance. Dr. Broadbent forms his theory of the action of phosphorus "not from any direct influence upon the nervous functions, but from favorable modification of the organic processes leading to improved nutrition of the nervous structures." The phosphorus was given in capsules one to three times a day.

LOCAL EFFECT OF COLD APPLIED TO THE SCALP.

Dr. Benham, (*The Practitioner*, March, 1875; from the West Riding Lunatic Asylum Medical Reports, vol. iv.,) from a number of very laborious and careful experiments on the human body, living and dead, and on lower animals, asserts that the cold applied to the scalp "causes a slight lowering of the temperature of the body generally, by the direct action that cold has in lowering the temperature of the stream of blood passing through the capillaries in direct contact with it, and a slight decrease in the frequency of the heart's action. * * * A greater effect in the same direction may be more easily produced by other and less violent means."

THE ANTAGONISM OF MEDICINES.

The report of the committee of the British Medical Association to investigate the antagonism of medicines (*British Medical Journal*, Nos. 718 to 724, and Nos. 726 and 727,) is a most valuable contribution to therapeutics. The labors of this committee (composed of Drs. J. Hughes Bennett, McKendrick, James Rogers, Macadam, Edmund Cook, and Mr. T. Smith,) extended over a period of four years, and comprised the results of six hundred and nineteen experiments. They obtained positive results of physiological antagonism in three instances, namely, between hydrate of chloral and strychnia, sulphate of atropia and calabar bean, and hydrate of bromal and atropia. The physiological antagonism of these medicaments, under proper conditions of time, dose, comparative weight of the animals, etc., would seem as positive as the chemical antagonism formed by the union of an acid with an

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alkali. The method by which these experiments were conducted was based upon the following data: to determine by actual trial what was the minimum fatal dose of each drug to a given weight of the animal; then to administer the two drugs hypodermically, one immediately after the other. If the animal survived the experiment for five days, then the same dose of the first drug was administered, with the expectation that the result would be fatal to its life.

The general conclusions of the committee regarding the antagonism between chloral hydrate and strychnia are—

1. That after a fatal dose of strychnia life may be saved by bringing the animal under the influence of chloral hydrate.

2. That chloral hydrate is more likely to save life after a fatal dose of strychnia than strychnia is to save life after a fatal dose of chloral hydrate.

3. That after a dose of strychnia producing severe tetanic convulsions, these convulsions may be much reduced, both in force and in frequency, by the use of chloral hydrate, and consequently much suffering saved.

4. That the extent of physiological antagonism between the two substances is so far limited that, first, a very large fatal dose of strychnia may kill before the chloral hydrate has had time to act; or, secondly, so large must the dose of chloral hydrate be, to antagonize an excessive dose of strychnia, that there is danger of death from the effects of the chloral hydrate.

5. Chloral hydrate mitigates the effects of a fatal dose of strychnia by depressing the excess of reflex activity excited by that substance, while strychnia may mitigate the effects of a fatal dose of chloral hydrate by rousing the activity of the spinal cord; but it does not appear capable of removing the coma produced by the action of chloral hydrate on the brain.

Sulphate of atropia antagonizes to a certain extent the fatal action of calabar bean, but the area of antagonism is very limited. The danger is, not death by too great a dose of sulphate of atropia, the supposed antagonist, but death from the effects of calabar bean. In the instance of the antagonism of

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strychnia to chloral the danger lies in giving too large a dose of the antagonist, strychnia; whereas in poisoning from calabar bean, sulphate of atropia, even in large doses, produces so slight an effect on rabbits that the fatal action of the calabar bean may go on without opposition. Chloral hydrate as an antidote to calabar bean seems to have more weight, and appears to modify to a great extent the action of a fatal dose, and to prolong life; in some cases it apparently saves life after a fatal dose of extract of calabar bean. Upon this point the committee very properly states that chloral hydrate is of comparatively little service as an antagonist to extract of calabar bean if given some time after the latter. "The reason of this is very obvious. Extract of calabar bean produces its most severe physiological effects ten or fifteen minutes after the administration of the fatal dose. In some cases the effects occur even sooner. On the other hand, a rabbit is not deeply under the effects of hydrate of chloral until fifteen or twenty minutes after its administration. If the effects of calabar bean appear before those of hydrate of chloral, they usually run quickly to a fatal issue, because the antagonist, hydrate of chloral, is not acting with sufficient vigor to restrain them. * * * There is no chance at all of saving life if the chloral hydrate be administered more than eight minutes after the extract of calabar bean.

The committee also investigated the antagonism between morphia and atropia. Having carefully determined the fatal dose of sulphate of atropia and meconate of morphia, twenty-one experiments were made on rabbits, in which the former drug was administered at various intervals after a fatal dose of meconate of morphia. In six of these cases recovery occurred. "When the crucial test was applied to these six rabbits six days later, four died and two recovered. In all cases there could be no doubt that the subsequent injection postponed the fatal issue, if it did not save life. * * * After sulphate of atropia the pupil (which was contracted by a dose of meconate of morphia previously given) slowly dilated. * * * It was observed also that the vessels of the ear, turgid with

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blood after the large dose of meconate of morphia, contracted considerably about eight or ten minutes after the introduction of the sulphate of atropia."

The conclusions of the committee on this subject are—

"1. Sulphate of atropia is physiologically antagonistic to meconate of morphia within a limited area;

"2. Meconate of morphia does not act beneficially after a large dose of sulphate of atropia, for in these cases the tendency to death is greater than if a large dose of either substance had been given alone;

"3. Meconate of morphia is not specifically antagonistic to the action of sulphate of atropia on the vaso-inhibitory nerves of the heart; and,

"4. The beneficial action of sulphate of atropia after the administration of large doses of meconate of morphia is probably due to the action sulphate of atropia exercises on the blood-vessels. It causes contraction of these, and thus reduces the risk of death from cerebral or spinal congestion, as is known to occur after the introduction of fatal doses of meconate of morphia. It may also assist up to a certain point, not precisely fixed in these experiments, by stimulating the action of the heart through the sympathetic, and obviating the tendency to death from deficient respiration observed after large doses of morphia."

After showing the contradictory evidence of Harley (*Old Vegetable Neurotics*) on the one side, and Mitchell, Keen, and Morehouse (*American Journal of the Medical Sciences*) on the other, the committee conclude, from five original experiments of their own, "that in dogs sulphate of atropia modifies the symptoms of poisoning by meconate of morphia, diminishes their intensity, and may even save life after a fatal dose of the latter. It is therefore decidedly antagonistic, but within a limited area. In man sulphate of atropia would be too dangerous and uncertain a remedy to depend on in cases of poisoning by opium or any of its salts, but where the heart's action is greatly diminished it is directly indicated."

The committee also inquired into any supposed antagonism

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between the alkaloids of tea, coffee, cocoa, and guarana; and simply concluded that theine, caffeine, and guaranine might have some slight influence in modifying some of the symptoms, and may perhaps even save life; whilst, on the other hand, the animal may die either from too large a dose of the caffeine or of the meconate of morphia; but there is a point between the two actions where the physiological effect is such that life may be saved from doses which would otherwise prove fatal. Guaranine seemed rather to increase than to modify the tendency to coma.—*Boston Medical and Surgical Journal.*

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Extracts from Home and Foreign Journals.

SURGICAL.

SALICYLIC ACID IN THE TREATMENT OF CATARRH OF THE URINARY ORGANS WITH ALKALINE FERMENTATION OF THE URINE.

Taking the hint from Kolbe's statement, that a small proportion of salicylic acid will arrest the alkaline fermentation of stagnant urine and destroy the bacteria found in its sediment, and remembering that this subject is largely eliminated as such in the urine, Dr. Furbinger, of Heidelberg, gave it internally in some cases of cystitis, pyelitis, etc., and has made a partial report of the results. The first of the four cases that he reports was one of advanced phthisis and spinal paralysis, in which the urine became fetid and alkaline, and had a deposit consisting of crystalline salts, pus corpuscles, and bacteria. After about 77 grains of salicylic acid had been taken in divided doses, the urine became acid and lost its bad smell, and only pus cells with very few bacteria were found in the sediment. The second was a case of chronic Bright's disease, complicated with catarrh of the urinary tract. The urine was highly akaline when passed, its sediment essentially the same as in the last case, and it also contained albumen. There were also symptoms referable to an enlarged and sensitive prostate. He was given salicylic acid in the average dose of 15 grains a day, and this was continued for nine days, with gradual improvement in the characters of the urine, and finally a disappearance of all bad features except those due to the chronic Bright's disease, viz: casts, albumen, and a few

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red blood-corpuscles. The third case was one of cystitis of many years' standing, requiring the daily use of a catheter, and in which the characters of the urine and its sediment were similar to the last, the bacteria being very numerous. Salicylic acid was given internally in daily doses of 15 to 30 grains for some twelve days without effecting an important change in the urine. On the supposition that a mass of mucus adhering to the walls of the bladder might be acting as a ferment and keeping up the alkalinity of the urine and the supply of bacteria to an extent which the amount of the acid present in the urine could not overcome, it was determined to wash out the bladder thoroughly with warm water and with a weak solution of salicylic acid. This was done for three days, the medicine being continued internally, and on the fourth day the urine was found to contain no bacteria, but only pus cells and epithelium, and to be acid. The fourth case was one of acute cystitis, in which the alkalinity, the bad smell, and the bacteria developed in the urine were removed by the internal use of the salicylic acid as above, while the pus remained unaffected. From these cases the author feels justified in concluding, first, that the internal administration of salicylic acid in quite small doses will do away with the irritation and results of the ammoniacal urine within the organism; but second, that it is not capable of checking the formation of pus cells on the mucous membranes of the urinary passages.—*Berl. Klin. Woch.*, May 10, 1875.

ON THE USE OF SALICYLIC ACID.

Professor Crede gives a short note (*Archiv für Gynäk.* Bd. vii. Heft 3) on the use of salicylic acid in gynæcological practice. He has employed it for the last six months, on the recommendation of Professor Kolbe, instead of carbolic acid, as a disinfectant for the hands, as a vaginal injection in puerperal women, and for sprinkling over puerperal ulcers, etc. The strength of the solution is from 1 in 300 to 1 in 900, or as a powder mixed with starch, 1 in 5, or it may be used as salicylic acid wool. Most favorable results have followed its employ-

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ment, and Professor Crede desires strongly to recommend its use in midwifery practice.—*Obstetrical Journal.*

DIEULAFOY'S ASPIRATOR IN LITHOTRIPSY.

J. W. S. Gouley, M.D., writes as follows from New York under date of August 27, 1875, to the Editors of the *Medical Record:*

Sir—Among the many examples given by Dieulafoy, where his method of pneumatic aspiration has been brought into requisition, he does not make mention, in his book published in 1873, of its having been employed as an adjuvant to lithotripsy. It has seemed to me that his valuable instrument, which is now in the hands of the great majority of surgeons, might be so employed with advantage, and replace the rubber "washing-bottle," of Clover, and thus diminish by one the already too numerous appliances in the surgical arsenal.

Having recently had an opportunity to demonstrate the excellence of this aspirator in the operation alluded to above, I have the honor, through your columns, to report the result to the profession, in order that the procedure may be further tested.

A few weeks ago I had occasion to perform lithotripsy upon an old man, suffering also from prostatic hypertrophy, who had for two years been compelled to rely almost entirely upon the catheter to void his urine. Immediately after the first sitting I proceeded to remove the fragments by first attaching to the end of a No. 12 evacuating silver catheter an india-rubber tube, two feet long, which led from one of the stop-cocks of Dieulafoy's inclined rack-and-pinion aspirator. A single aspiration sufficed to abstract nearly all the detritus, and the whole process did not occupy two minutes' time. Owing to clogging of the rather small-bored tube, a second aspiration could not have been made without too much delay. To obviate this, I have since added to the apparatus a glass cylinder, so constructed as to receive the detritus and prevent its being forced either into the barrel of the aspirator or back into the bladder.

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I believe that aspirations of calculous débris can be made much more safely and expeditiously by this means than by Clover's apparatus, and that it is especially applicable in cases where the prostate is so enlarged as to prevent the spontaneous expulsion of fragments of small foreign bodies which may have eluded the lithotriptor or other instruments for their extraction.

THE SUBCUTANEOUS INJECTION OF CARBOLIC ACID AS AN ANÆSTHETIC AND ANTI-NEURALGIC.

Attracted by the published views of Professor Hueter, Dr. Hermann Schulz began the use of carbolic acid as a subcutaneous injection, aiming at an antiphlogistic and anæsthetic effect. He has now used it in some forty cases. He used a two-per-cent. solution of the purest carbolic acid in distilled water, and injects with a Pravaz syringe, which is filled quite full and is to be used from half full to twice full at one time, and repeated after some six or eight hours, if necessary, without regard to the presence or absence of fever. Out of over two hundred injections he has seen an abscess form but once, when the tissues had been lacerated by the sudden movement of a child's head during the little operation. He has had no experience in the use of parenchymatous injections. The results which he reports of his experience with the subcutaneous injections are by no means uniform. He has used them in cases of chronic inflammation, caries, and eczema, and found them inefficient; in some acute cases he had more favorable results, as in enlargement of the glands of the neck accompanying scarlatina and diphtheria; in a phlegmonous inflammation following dacryocystitis; in otitis externa and myringitis, and in one case of catarrhal conjunctivitis, though they failed in a second similar case. His use of this treatment in pneumonia does not wholly confirm the favorable opinion of Hagen. It had no marked influence upon the general course of the disease, but did effect a very prompt and marked relief of the pleuritic pain, and also of the cough, even when cups and sinapisms had proved ineffectual. The injections had to be

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repeated sometimes at the end of from four to eight hours. He regards this as a very important adjunct in the treatment of pneumonia. From his experience in the treatment of some seven contusions, of intercostal neuralgia, periostitis of the jaw, hemicrania, and supraorbital neuralgia, by these injections, he found that they generally produced early, and often permanent and complete relief of the pain, sometimes stopping the accompanying inflammatory process. Thus he believes that as an anæsthetic and anti-neuralgic remedy these injections may very often be advantageously substituted for narcotics.—*Allg. Med. Cent. Zeit.*, July 31 and August 4, 1875.

MEDICAL.

EXAMINATION OF URINE.

Morbid urine may contain (1) too great or too small a proportion of one or more of its normal constituents; these are urea, uric acid, urates, phosphates, chlorides. Or (2) it may contain one or more ingredients not usually found in healthy urine: albumen, sugar, blood, pus, bile, chyle.

CHEMICAL EXAMINATION OF A PORTION OF (FILTERED) URINE.

1. Acid or alkaline; use litmus paper as a test.
2. Specific gravity; use sp. gr. bottle or hydrometer.
3. Nitric acid is added; if crystals form abundantly, there is excess of urea; if a precipitate, albumen may be present.
4. A portion is heated; a precipitate indicates either albumen or phosphates.
5. To the precipitate from No. 4 (in the tube) add nitric acid. Phosphates *are dissolved;* albumen is *not dissolved.*
6. To a portion of urine add the copper test solution with heat; a reddish-yellow precipitate indicates sugar.
7. A portion is tested with nitric acid; if precipitate is

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abundant and of light color—*albumen*; if scanty and of red color—*uric acid*.

8. The urine when boiled forms a dark coagulum—*blood*.

9. The urine mixed with a warm solution of urate of ammonia gives a pink precipitate—*purpurine*.

10. The urine (deprived of albumen by heat) has a few grains of sugar added, and then sulphuric acid, drop by drop; a deep red color indicates *bile*.

11. Solution nitrate of silver precipitates *chlorides*. (The urine must first be freed from albumen. Each grain of precipitated chloride of silver, when dried at 212° F., represents 4-10 gr. chlorides.)

EXAMINATION OF URINARY DEPOSITS.

1. Deposit white, see 2; colored, see 6, 7, and 8.

2. Deposit soluble when heated—*urates*.

3. Deposit soluble in ammonia—*cystin*.

4. Deposit soluble in acetic acid—*earthy phosphates*.

5. Deposit insoluble in acetic acid—*oxalate of lime*.

6. Deposit crystalline—*uric acid*.

7. Deposit amorphous, faintly colored, readily soluble when heated—*urates*.

8. Deposit strongly colored, slowly soluble when heated—*urates* tinged with *purpurine*.

9. Deposit greenish-yellow, easily diffused by agitation—*pus*.

10. Deposit ropy and tenacious—*mucus*.—Prof. P. W. BEDFORD, in *Druggists' Circular*.

THE VALUE OF PEPSINE.

In a review of Stille's "Therapeutics and Materia Medica," the *Lancet* observes:—We are surprised to find that pepsine is omitted from the present edition, being dismissed from the materia medica with the note that "experience has shown that the notions entertained for a time of its virtues were illusory, and as the history of this preparation has furnished a fresh demonstration that *a priori* conclusions on therapeutics are generally valueless, any account of its preparations and uses

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appear superfluous." As far as we are aware, there are no published facts which afford sufficient ground for such an abrupt dismissal of an agent still in wide use. That carefully prepared pepsine possesses the alleged property of dissolving albumen is unquestionable, resting upon ample evidence. There can be no doubt that the best specimens of commercial pepsine, prepared both in Germany and this country, possess the same property. In the opinion of many of the physicians of largest experience in this country, good pepsine is of considerable value in the treatment of gastric troubles, at least, if we are to judge from the fact that it is still frequently prescribed. Many pepsine preparations are quite inert, both those prepared in this country and in America, but this is hardly sufficient ground for wholly condemning it.—*Medical and Surgical Reporter.*

THE PATHOLOGY OF DIPHTHERIA.

Professor Henoch, of Berlin, says, in a recent lecture, that "the diphtheritic process has been anatomically distinguished from croup by the peculiarity that the mucous membrane becomes infiltrated with the secreted matters, while in croup there is a deposition of a free membrane on the surface of the mucous membrane. There is, in fact, a primary fibrinous croup, which has nothing in common with diphtheria as an infectious disease. Towards establishing the proof that a primary croup may exist, and which not uncommonly follows and is the sequence of a catarrh of the larynx, becoming, in fact, plastic croup, take the following case of measles:—A boy, suffering from measles, was admitted into the Charité, with laryngeal catarrh strongly developed, and yet there was nothing to be seen in the throat beyond simple angina. The hoarseness, however, continued for some days, even after the diminution of fever. After four days' duration the temperature rose, and in a few hours croup was developed, for which tracheotomy was performed. From the aperture in the trachea a long plastic tube of membrane was drawn out. The canula was retained for ten days, and the child recovered.

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Such cases prove that true croup may be developed from a catarrh; but it must be confessed that at the present time cases of true croup, compared with those of infectious diphtheria, are of rare occurrence."—*Ibid.*

THE INFLUENCE OF CHLOROFORM ON FERMENTS.

Some important observations have recently been made by M. Muntz, on the effect on various ferments of the addition to them of chloroform. He finds that its effect is very different on the two classes of ferments which have been distinguished by Dumas as chemical and physiological ferments. On the former, which consists of a nitrogenized but unorganized material, it has no effect; on the latter, those in which the fermentation is the concomitant, if not the result, of a process of growth in vital organisms, chloroform has the effect of arresting the fermentation at once. Milk, to which a small quantity of chloroform has been added, remained for four months without becoming curdled, and no organism appeared in it; fresh urine, under the same conditions, remained for two months, at a temperature of 25° to 30° C., without undergoing ammoniacal fermentation or yielding organisms; the result was the same with flesh, gelatine, and starch. The alcoholic fermentation of sugar in contact with yeast was completely arrested by the presence of chloroform.—*Ibid.*

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Editorials, Reviews, Etc.

ETHICS AND ANÆSTHETICS.

WHENEVER, in the course of human events, it happens that a man, while in the hands of a doctor, suddenly falls into that peculiar physical condition called death, there are never wanting those who, though not indeed in possession of the full history of the facts in the case, are ready to clear up the matter to the satisfaction of the people, and generally at the expense of the doctor's reputation for wisdom or prudence. With regard to the use of anæsthetics this is, perhaps, more especially the case. We can scarcely remember the time when the death of a patient from chloroform was not made the subject of defamatory deliverances in regard to the administrator.

Now in the present state of medical enlightenment, it exhibits the utmost ignorance of physiological and pathological relations and conditions to affirm that it is ever possible for any man, however extended his acquaintance with the idiosyncrasies and temperament of the patient, to predict, with any certainty, the results which are to follow the administration of an anæsthetic. The balance of power between the cerebro-spinal and organic nervous systems is often so delicate as to result in the complete overthrow of nervous activity under influences so slight that the most skillful physiologist could never predict such a consequence.

As to the relative safety of chloroform and ether, we have only to state that when the latter has been in general use, by the profession, for the same length of time as the former, fatal

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results will be equally as numerous. Even now, in Germany and England, we hear the mutterings of the distant thunder. From several hospitals we begin to hear of deaths from ether, and will continue to do so as long as it is used. Many surgeons consider it equally as dangerous as chloroform. In fact, upon *a priori* grounds, we shall never expect to have an anæsthetic whose administration may be regarded as safe, since the greatest number of fatal results are due, not to impure material nor improper administration, but to the peculiar nervous relation of the patient, which puts him in a condition to have his vital activity arrested by the introduction of such a disturbing element as an anæsthetic must ever be, from the very nature of its effect.

We hope that these conservative views will do something toward checking the growth of a sentiment founded upon a fallacy and fed by professional jealousy. T. O. S.

PROF. CLELAND'S ADDRESS.

It is not often that we introduce into our pages—which are generally filled with matters of more practical interest—a paper so alaborately scientific as that of Prof. Cleland, which appears in this issue of the JOURNAL. We do so in this instance as this paper, to use the words of Prof. Rollestone just after its reading, is one of those great productions from which science takes a new departure. It is a *living* thing, and every work on morphological anatomy in the future must take on modifications from the views herein expressed.

We differ, upon many points, with Prof. Cleland, and have already notified him of our intention to discuss his position with regard to the "*periotic bones*," through the columns of

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this journal. It is mainly for this reason that we have given our readers the full *verbatim* report of his address as delivered before the Biological Department of the Anatomical and Physiological Section of the British Association. T. O. S.

HOMŒOPATHY IN STATE UNIVERSITIES.

How far the claims of Medicine are to be waived in pandering to the fanaticism and quackery of the laity has become, of late, a very grave question with regard to those institutions supported by the State. We have not much to say upon this point, since we take the high ground that medical men should never place themselves in such relations to the State as that they should be called upon to compromise principle by the turn of an election in the vicissitudes of a democratic government. It has ever been our position that medical men should regulate medical teaching, and if they deviate from this maxim they must expect to be subjected to the inconveniences of interference on the part of those to whom they have delegated their rights.

With quackery the medical man can hold no fellowship and maintain the dignity of his calling. Come out from among them. Touch not the unclean thing. If the State, through its representatives, supports and advances it, the duty of the medical man is clear—there is no way open but the severance of those relations which force upon them such unworthy association. T. O. S.

BOOK-NOTICES.—We direct especial attention to our Book-Notices. We are endeavoring to bring before the practitioner the cream of medical literature, and do for him the work of excerption and filtering. We expect in future to pay particular attention to this department of the JOURNAL.

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WOMEN AT THE BRITISH ASSOCIATION.

THE pragmatic forwardness and officious pertinacity of the women who were allowed to read papers at the last meeting of the British Association, ought certainly to settle the question with us as to their introduction into our medical and scientific circles. They are nuisances. We were bored with the scientific phizzing of several of these sexual anomalies in the anthropological section, but submitted to the infliction on the ground of the distinction between *anthropos* and *anēr*; giving them somewhat of a show for representation, but it was too much for us when we were compelled to listen to a long drawn out intuitional discussion of the origin of the lymphatics in the Section of Anatomy. We feel like bringing out our litany whenever crinoline and anatomy come together.

It is a significant fact that women have never been discoverers or inventors. They do everything by intuition, and are not capable of pronouncing upon even the simplest facts that come under their observation. To be born with judgment a woman must be born without a uterus. We remember our former confrere, Prof. Bowling, used to remark to his classes: "Gentlemen, remember, when you treat a woman you are treating a uterus with its appendages."

We condone their participation in the pyrotechnics of ethnology and the speculations of psychology, but let us be spared their interference with the positive sciences—the scalpel and the crucible—where they have been ever found an obstruction and a nuisance.

T. O. S.

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BOOK-NOTICES.

VISION: ITS OPTICAL DEFECTS, AND THE ADAPTATION OF SPECTACLES. Embracing, 1st, Physical Optics; 2nd, Physiological Optics; 3rd, Errors of Refraction and Defects of Accommodation, or Optical Defects of the Eye. With Seventy-Four Illustrations on Wood, and Selections from the Test-Types of Jaeger and Snellen. By C. S. FENNER, M.D. Philadelphia: Lindsay & Blakiston. 1875.

This work meets the growing demand for more extensive scientific information upon hitherto neglected methods of dealing with the functional derangements of the optical organism. There has been, perhaps, no soil so favorable to the growth of quackery as this—the optical defects of vision; and this is so for no other reason than that the science of optics, as carried out in the visual organism, is of such a complicated nature that but few of those who have to deal with the defects of this organism have the time or the means at their disposal to follow it out in its wide mathematical and physical relations. This book, properly used, will prove a great boon to the profession. The day has come when we cannot afford to ignore those sciences which, through a want of appreciation of their true relations, have received the misnomer *abstract*. They are not abstract, and every new development exhibits new relations pregnant with importance.

This work is beautifully executed, and is an ornamental, as well as a valuable and practically useful addition to the library.

We append one extract, which appears on page 205, to which we add our full endorsement:

The great frequency of accommodative asthenopia having its origin in the hypermetropic structure of the eye, renders it important that its nature and treatment should be thoroughly understood by general practitioners of medicine, and I add this note with the view of impressing upon them and the educated public the important bearing of this subject upon a condition of the eyes, affecting so many children and young persons, and will eluci-

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date its nature and symptoms still further, by the clinical report of several cases.

"He who knows by experience how commonly H. occurs, how necessary a knowledge of it is to the correct diagnosis of the various defects of the eye, and how deeply it affects the whole treatment of the oculist, will come to the sad conviction that an incredible number of patients have been tormented with all sorts of remedies, and have been given over to painful anxiety, who would have found immediate relief and deliverance in suitable spectacles."—DONDERS.

Adults who have had hypermetropia from childhood, and who now understand the nature of it, frequently speak of the sufferings they endured while attending school. Owing to an inability to study for any considerable length of time, they were frequently unable to accomplish the tasks assigned them, and for this cause were too often accused of stupidity; their complaints of headache and fatigue of the eyes were treated as an excuse for idleness; and if, perchance, they put on their grandmother's spectacles, and found, to their delight, that they could read with ease, yet, if detected, they were reprimanded, and threatened with punishment if again seen wearing them; and as they grew older, and determined to experience the benefit to be derived from artificial assistance, they were constantly reminded of threatened loss of vision, and that the danger would be greatly increased by wearing glasses. Even as late as 1848, Mackenzie, in his then exhaustive treatise on "The Diseases of the Eye," advises such sufferers not to use glasses, but rather to give up literary for rural pursuits.

Many ambitious young men, with a fondness for study, and high aspirations for professional distinction, have had their hopes nipped in the bud by increasing difficulties of continued near vision in reading, writing, etc., and although they found relief from positive glasses, have been advised, by those in whom they confided, not to wear them, but rather to go to the country and seek some occupation which calls for but little exercise of accommodation. There is scarcely a teacher in any of our schools who has not one or more pupils who, after much study, particularly by artificial light, does not suffer from fatigue, with nervous and vascular irritation of the eyes, accompanied by headache, and whose annoying symptoms would vanish if permitted to wear properly adjusted convex glasses; but, owing to a want of knowledge on the part of their physician, they are doomed to a continuance of the sufferings and inconvenience of defective vision. The great frequency of such cases renders it important that not only members of the medical profession, but educated persons, and particularly teachers, who can easily comprehend the subject of hypermetropia, should be, to some extent, familiar with it, so that they may make due allowance for the complaints of their pupils, and at the same time, by the proper diffusion of knowledge, overcome the prejudice so widely existing in the public mind against wearing convex glasses, even when their use is imperatively demanded to overcome some natural or acquired defects in the eyes.

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HISTORY OF THE SMALL-POX EPIDEMIC in the City of Mobile, 1874–5: with Mortuary and Meteorological Tables. Also, Notes and Reflections upon Diphtheria and Typho-Malarial Fever; together with An Ordinance to Secure the Public Health. By JEROME COCHRAN, M. D., of Mobile, Professor of Public Hygiene and Medical Jurisprudence in the Medical College of Alabama. Extracted from the "Transactions" for 1875. Montgomery, Ala. 1875.

Our friend Prof. Cochran has given us, in this well-executed pamphlet, one of those contributions to nosology which will never pass out, or never ought to pass out, of the literature of disease. In giving us the history of small-pox in his own city, he has laid before us the fullest and most practically useful, as well as scientifically correct, etiology, pathology, and treatment, of the disease in general, which is extant. His appended notes on diphtheria are somewhat vague, but then he does not profess to do more than touch upon some of the eccentric manifestations of the disease.

His remarks upon "Typho-Malarial Fever" are well timed, and have the true ring about them. We remember once, in the Alabama Association, to have inaugurated a crusade against the careless nomenclature of disease, arising from ignorance or want of investigation, and we are glad to see that he is, in this instance, driving home the principles which we then laid down. This paper is one of great importance. We earnestly commend it to every practitioner. Here is an extract, which will whet the appetite for more:

> In my medical creed, malarial fever is, in the strictest sense of the words, a specific fever, generated in the human system by a specific poison, advertised by specific symptoms, marked by specific lesions, and amenable only to specific treatment. In like manner, I hold that typhoid fever is also a specific fever, the legitimate offspring of a specific poison, attended by a train of specific symptoms, characterized by specific lesions, and, in the nature of things, *curable* only by specific remedies, if, indeed, it should ever prove to be curable at all, which I greatly doubt.
>
> It has been believed by many that all fevers are essentially of one nature, the various phases of febrile disturbance being ascribed to various perturbing circumstances and complications. In harmony with this doctrine, it has also been held that fevers may change their types—that one form of fever may pass into another form of fever—that, for example, malarial fever, through some legerdemain of pathology, can be transmuted into ty-

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phoid fever; or, as the common phrase is, that malarial fever can *degenerate* into typhoid. It is a doctrine, however, which I can by no means endorse; and I should, indeed, be sadly puzzled how to treat my fever patients if fevers were endowed with the protean faculty of being one thing to-day and another thing to-morrow. But plainly, if fevers have specific causes, this mutation is impossible. The same seed must always produce the same plant, to bear for our pleasure the same flowers, and for our use the same fruit. We do not gather figs of thistles, nor grapes of thorns. If typhoid is planted, only typhoid can be reaped. If we sow malarial seed, we can gather none but malarial fruit.

But if a genuine hybrid fever is inconceivable and impossible; and if fevers cannot change their types for the accommodation of careless diagnosticians, it may still be contended that two distinct fevers, as typhoid and malarial, may afflict the same human organism at the same time, both running through all their usual stages side by side, and presenting a double set of symptoms and a double set of lesions, "like," as Dr. Tracy hath it, "two friendly sojourners in separate apartments of the same tenement, without officious intermeddling or molestation of each other." This doctrine of the coexistence of two specific diseases in the same human body is not, *prima facie*, either absurd or impossible. Examples enough can be found scattered through medical books and periodicals; and the testimony of a cloud of witnesses of reputable name can be adduced in support of it. Among these, I may mention the names of Diemerbroeck, De Haen, King, Williams, Gregory, Beaudelocque, Walsh, Mearson, Goodfellow, McBride, Russell, Tracy, Willan, Jenner, Copland, Saunderson, and Landouzy. But while I will not venture to doubt that such examples may have been occasionally seen, I must still be allowed to believe that, in reality, they are of extremely rare occurrence; and that a very large majority of the cases so reported are more truly cases of mistaken diagnosis.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by Dr. H. von ZIEMSSEN, Professor of Clinical Medicine in Munich, Bavaria. Volume X. Diseases of the Female Sexual Organs. By Prof. CARL SCHROEDER, of Erlangen, Bavaria. Translated by EDWARD W. SCHAUFFLER, M. D., of Kansas City, Mo.; LEONARD WHEELER, M.D., of Worcester, Mass.; WILLIAM L. RICHARDSON, M.D., of Boston, Mass.; and EDWARD B. BRONSON, M.D., J. HAVEN EMERSON, M.D., and PAUL F. MUNDE, M.D., of New York. ALBERT H. BUCK, M D., New York, Editor of the American Edition. New York: William Wood & Co. 1875.

The matter of this Cyclopædia we shall take up in a more extended notice than we can, in this connection, afford.

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ALIMENTATION and the Gastro-Intestinal Disorders of Infants and Young Children. By B. F. DAWSON, M.D., Physician to the New York Free Dispensary for Sick Children; late Physician for Children to the New York and the Demilt Dispensaries; late Clinical Assistant to the Clinique for Diseases of Children in the College of Physicians and Surgeons, New York; Physician to the Out-door Department New York State Woman's Hospital. Reprinted from the "American Journal of Obstetrics, and Diseases of Women and Children." New York: Wm. Wood & Co. 1875.

This monograph deserves a high place in the physiology of the day. We call particular attention to the following extract:

The frequency of nursing the infant, also, has very much to do with gastric and intestinal troubles. On this subject, however, there is much diversity of opinion amongst mothers, nurses, and physicians. By those who have studied the subject, and have had large opportunities for so doing, it is considered sufficient for the new-born infant to take the breast every two or three hours during the day, and then only if it is hungry, for if remaining quiet, and apparently not hungry, I cannot see why it should be put to the breast "because it is time." Once during the night is quite often enough, for it must be remembered that, during sleep, digestion is not performed as rapidly as during wakefulness. Consequently, if the infant's stomach is filled during the night several times, the fresh milk entering at each meal comes in contact with the semi-digested curds of the preceding meal, and thus must necessarily be curdled itself, and, as the infant falling asleep, remains longer in the stomach undigested than requisite, at last passes into the intestines, and thus gives rise to colic, anti-peristaltic action, morning vomiting and constipation, and, if the evil habit is persisted in for days and weeks, will at last cause a gastric and intestinal catarrh of more or less severity.

I am quite sure I am not alone in my experience of having seen very many infants in whom the cause of a gastro-intestinal disorder was due solely to too much and too frequent nursing, and who were restored to health by remedying these abuses. And my experience in consequence has led me to believe that the majority of cases of gastro-intestinal disorders of even the severest types, occurring in the naturally healthy infant, fed by a healthy breast, are due to *too much* and *too frequent* nursing; and with perfectly well children I never lose the opportunity to impress upon the mother the importance of avoiding falling into these errors.

But supposing we are called in to attend a case which, from the above causes, is suffering from either vomiting, constipation, wasting or diarrhœa, or two or three of these disorders together. What are we to do? Are we to remove the child from the breast for certain intervals? It may be said,

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if we deprive the already wasted body of nourishment for any length of time, will we not run the risk of losing our little patient? To these questions I reply, *Starve the stomach! give it rest!* Does not the vomiting or the diarrhœa tell us in the plainest language that the digestive organs need rest? Will we gain any benefit, I ask, from ejected or undigested food, even if it cause no severer disturbance? Certainly not; therefore, is it not better by far that not even so small an amount as only a teaspoonful of milk be taken, if not retained and assimilated? Put such children, therefore, according to the urgency of the symptoms, upon nourishment diminished both in quantity and frequency; and if pains be taken to carry out such practice, we will accomplish a cure more surely and much more quickly than can be accomplished alone by any article or combination of articles in the materia medica. In the one case we will permanently remove the cause of the disorder; in the other we will obtain but temporary relief.

A Study of the Normal Movements of the Unimpregnated Uterus. By Ely Van de Warker, M.D., Syracuse, N. Y. Reprinted from the New York "Medical Journal," April, 1875. New York: D. Appleton & Co. 1875.

We call especial attention to this pamphlet more particularly because it embodies the experiments of Prof. Burdon Sanderson upon movements by the graphic method. We have witnessed these, and know whereof we speak.

Medicine and Surgery.—A Statement of the Relations of the Faculty of Medicine and Surgery in the University of Michigan to Homœopathy. Detroit: 1875.

Our views upon these relations are laconically set forth in an editorial of this issue. The matter cannot be whitewashed, though this pamphlet is about as sharp a case of special pleading as we have ever known.

Annual Oration before the Medical and Chirurgical Faculty of Maryland, April 14, 1875. Contribution to the Medical History and Physical Geography of Maryland. By Joseph M. Toner, M.D. Reprinted from the "Transactions of the Medical and Chirurgical Faculty of Maryland, 1875. Baltimore: Innes & Co. 1875.

This is a valuable contribution to medical history, and the name of Joseph Toner will commend it to every one who knows anything of American medical literature.

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TRANSACTIONS of the College of Physicians of Philadelphia. Third Series. Volume I. Philadelphia: 1875.

Besides many papers of great interest and value, there is, in this volume, a full report of the surgical anatomy of the Siamese Twins, which is beautifully illustrated, and should be appended to all our text-books on anatomy in the future.

THE SIGNIFICANCE OF PALEONTOLOGY, and

CONSCIOUSNESS IN EVOLUTION, by Prof. E. D. COPE. Reprinted from the "Penn Monthly." Philadelphia. 1875.

Prof. Cope's views of evolution we have long since adopted. His "retardation and acceleration" theory is, to our mind, the clearest solution of the problem. We have more than once, in this country and in Europe, defended this position, and shall continue to do so until we find a more rational hypothesis. Prof. Cope is one of our greatest men. "Tell him," said the great Owen to us a few weeks ago, "not to burn out at both ends—you Americans are too fast—too fast."

BOOKS AND PAMPHLETS RECEIVED,

IN ADDITION TO THOSE NOTICED ON THE PRECEDING PAGES.

FRACTURE OF THE INFERIOR MAXILLARY BONE. By JOS. F. MONTGOMERY, M.B., of Sacramento, California. Extracted from the "Transactions of the Medical Society of the State of California," for the year 1875.

TRANSACTIONS of the Medical and Chirurgical Faculty of Maryland, at its Seventy-Seventh Annual Session, held at Baltimore, Md., April, 1875. Baltimore: Turnbull Brothers. 1875.

UNIVERSITY OF MICHIGAN, Ann Arbor, Michigan. Department of Medicine and Surgery. Annual Announcement, 1875–6.

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NASHVILLE

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Original Communications.

RECENT PROGRESS IN GYNECOLOGY.*

BY F. M. PETERSON, M. D.

THERE is no department in our profession in which we now have a greater number of intelligent and active workers, and more decided progress, than in that of Gynecology. The dissensions which have existed amongst the honest and capable specialists in this field, *may, possibly,* have produced greater industry and resulted in greater progress, still, I am inclined

* Read before the Medical Association of the State of Alabama, and copied from the "Transactions" of its Twenty-Eighth Annual Session.

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to regard them as unfortunate—as tending rather to retard than to stimulate advancement. The human mind appears to be so constituted that there is a *constant tendency* to the adoption of extreme views and opinions. This seems to be especially so in regard to the art and science of Gynecology. When it was first announced, by Henry Bennet, that inflammation and ulceration, confined chiefly to the lower segment of the uterus, were the starting point in uterine pathology, the profession, especially in this country, almost universally adopted his teaching and practice. When a patient complained of any symptoms, which could be referred to the uterus, a metroscopic examination was at once instituted, and if the os or cervix was the least diseased, or *even very red, indicating that it might* become so, the aplication of caustics was resorted to—Nitrate of Silver, Acid Nitrate of Mercury, Potassa cum Calce, *Potassa Caustica, &c.* The Potassa Caustica was the favorite caustic in hypertrophy of the cervix, "*to melt down the tissues.*" Thus was every woman treated who had symptoms referable to the reproductive organs; and often by physicians with little or no experience in such cases. Of course, incalculable mischief was done. But the doctrines and treatment of Bennet soon underwent severe, (almost annihilating,) criticism, by contemporary gynecologists, and professional opinion, which iterated for a time between the doctrines of Bennet and the *Mechanical School* of Uterine Pathology, is finally swayed to the other extreme, and we are now in danger of finding a pessary in the vagina of every woman who complains of *backache.* Graily Hewitt is the recognized leader of the new Pathological school. In the last edition of his work, (*Diseases of Women,* 1874,) he states his theory of the origin of a *large number* of all the cases of uterine diseases, as follows: He says—"it is now time, however, to go a step beyond this, and to explain how and why it is that the uterus becomes affected with inflammation. Facts incontrovertibly appear to show, that instead of beginning with a description of inflammation of the uterus, we have to begin with certain alterations of the uterus, which very com-

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monly, may, almost constantly, cause this inflammation, viz., those alterations in the form of the uterus which are now spoken of as flexions. The whole truth is not expressed by the foregoing statement. But the views I shall proceed to develop more at length, may be concisely stated as follows:

"*A.*" Patients suffering from symptoms of uterine inflammation, (or more properly, from symptoms referable to the uterus,) are almost invariably found to be affected with flexion, or alteration in shape of the uterus, of easily recognized character, but varying in degree.

"*B.*" The change in the form and shape is frequently brought about, in consequence of the tissues of the uterus being previously in a state of unusual softness, or what may be often correctly designated as chronic inflammation.

"*C.*" The flexion once produced, is not only liable to perpetuate itself, so to speak, but continues to act incessantly as the cause of the chronic inflammation present. Logically, and indeed practically, there are good reasons for placing flexions first in the order of sequence."

His tabular statement embraces six hundred and twenty-four cases.

He says: "The percentage of cases in which evidences of chronic inflammation of the uterus, unattended with flexion, existed, is extremely small. The flexion cases were very generally attended with alterations, such as would be properly termed as of a chronic inflammatory character; but it is precisely in those cases where the symptoms of irritation or inflammation was most marked, that severe and well-established flexions were found to exist. The inference seems irresistible, that the alteration in shape was the principal, and the really important, feature in such cases."

That changes in the *size* and *shape* of the uterus *can occur*, without *flexion, congestion,* or *inflammation, seems to me almost impossible.* That displacements may be *produced,* by vestmentary and other causes, can be readily understood; that versions and flexions may be thus produced, without change in the size of the organ as a preceding condition, may be *possible.*

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But is it not possible that, in a large majority of cases, the changes in the size and shape of the uterus; the ante-flexions and ante-versions, the retro-flexions and retro-versions, and the lateroflexions, are *secondary*, and due to fluxion, hyperæmia, congestion, inflammation, and hypergenesis of tissues, subinvolution, &c.?

Dr. Henry Bennet* read a paper before the British Medical Association in 1870, in which he reiterated his former views, and took strong grounds against the Mechanical doctrines and treatment of the day. Henry Bennet and Graily Hewitt represent the two extremes of pathology and treatment. Barnes, Duncan, Scanzoni, Thomas, Sims, Barker, *now* occupy more conservative ground. Tilt still occupies the extreme, on *Ovarian Pathology*, but he, too, is leaning to more conservative views. There is, after all that has been accomplished, a very unsettled state of opinion in regard to uterine pathology, and much of the treatment has no well settled pathological basis—is simply tentative, and often very unsatisfactory.

That men of distinguished ability and great professional influence, and capable of doing a great work in advancing the science, should become the advocates of some dogma, is unfortunate—is deplorable! One adopts the doctrine that inflammation and ulceration constitute the primary morbid change; another, that displacements and changes in size and shape are primary; another, subinvolution; others, *irritable uterus* (*?*); others, constitutional dyscrasia; others, endo-metrial catarrh; others, changes of the organ during gestation, and at the menstrual nisus; and *one* has recently discovered that latent gonorrhœal poison plays an important role in uterine pathology! Is it not extremely desirable that large, comprehensive, and philosophical views should displace the narrow, dogmatic opinions which have too often characterized our great leaders? And after all, may not a *modicum* of truth be found in all of their theories? The result of difference of

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* British Medical Journal, October, 1870.

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pathological views is, of course, *diametrically* opposite modes of treatment. "When doctors disagree, who shall decide?"

"*In medio tutissimus ibis.*"

Very many causes have become pathogenetic factors in the production of uterine diseases.

1. General constitutional diseases—as plethora or anæmia, nervous or circulatory disorders, functional and organic diseases of the liver, stomach, and other organs.

2. Fluxion, resulting in congestion, inflammation, determined by the mentrual nisus, by changes of temperature,—by a thousand causes and influences.

3. Displacements, caused by *corsets, tight waists,* blows, falls, and all other mechanical causes.

4. Subinvolution, after accouchment, after the *menstruale molimen,* after abortion. *No one pathological condition can be considered primary, in all cases, and no one cause is always paramount.*

The time has come to obliterate all factions, and to place this specialty upon the broad platform of an enlightened pathology, upon which we may base a rational, scientific and successful treatment. I think I can see a tendency in this direction, in the recent literature of the subject, and I hail it as the surest evidence of progress in this department.

POST-PARTUM HEMORRHAGE.

The importance of this subject, and the great interest which it has recently excited, must be my apology for introducing it here.

Injections into the cavity of the uterus of Per-chloride and other Per-salts of Iron.

In November, 1869, Dr. Robert Barnes read a paper before the London Obstetrical Society, on "Uterine Hemorrhage After Labor," in which he advocated the injection of the per-chloride of iron into the cavity of the uterus, with great earnestness and force. "It was a new power to save women from dying of hemorrhage; it acted after the exhaustion of nerve force; it acted by coagulating the blood in the mouths of the

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open vessels and corrugating the inner surface of the uterus; it acted after the failure of other means. Ergot, compression, kneading, and cold should not be trusted, if they failed to *act quickly;* they might do harm if too long continued. In his practice he had observed three orders of cases. In the first, all recovered. In the second, recovery occurred, but was followed by phlegmasia dolens. In the third class, death followed; the remedy came too late! Here the remedy was transfusion.

The paper was *eulogized* and *endorsed* by a large majority of the members present. It produced a profound impression on the minds of the medical men, both in Europe and in this country, and the practice was adopted quite extensively.

Turn now to a discussion of a case of post-partum hemorrhage, reported to the Edinburgh Obstetrical Society, by Dr. Connel, December 9th, 1874.* This case excited great interest, as the patient had died in one hour and a half after the injection of the styptic. The discussion was continued for two meetings of the Society, and a large majority of the members gave their *experience* and *opinions* in *opposition* to the injection of the per-chloride of iron into the cavity of the uterus in post-partum hemorrhage.

The condemnation of this treatment in 1875 is in striking contrast with the favor with which it was received in 1869.

Dr. Snow Beck is uncompromising in his opposition to the treatment of Barnes and his followers. He stated† that he had seen nine or ten cases in which death followed this treatment. All presented symptoms analogous to those known under the name of puerperal fever. The blood in the cavity of the uterus is coagulated into hard, blackened masses, by the salt of iron, which it cannot expel. These cause great irritation, pain, and perhaps inflamation. About the third day they begin to decompose, and then septic absorption takes place and fills the blood with poison, and then septicæmia

* Obstetrical Journal of Great Britain and Ireland, March, 1875.

† Transactions of the Obstetrical Society, London, 1873.

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becomes an element in the case, in addition to the metro-peritonitis already existing.

Must this treatment be abandoned? Believing that it has done more harm than good, I should be inclined to answer affirmatively. "It is a clinical question, and cannot be settled by abstract reasoning, but only by experience."

TINCTURE OF IODINE.

In a paper read before the Obstetrical Society,* October, 1874, Dr. Trask recommends this article as an injection into the cavity of the uterus, in hemorrhage after delivery. He thinks it perfectly safe—at any rate free from the evils incident to the employment of iron. It is an antiseptic, and is probably the surest of all means of counteracting a tendency to absorption of septic matter into the system after delivery. Since adopting the practice of injecting iodine, after operations upon the interior of the uterus, it is stated that Dr. Emmet has not encountered a single case of septicæmia. The quantity used was one drachm to one ounce.

HOT WATER.

Dr. Wildeband† strongly recommends hot water in *all kinds* of uterine hemorrhage. He is convinced that hot water (100 deg. Fahr.) exerts a far more energetic action on the muscular structure of the uterus than cold water, either alone or combined with astringents. He never has seen any bad effects from it. A brief summary of the treatment may not be inappropriate.

Precautionary Measures.—When the tendency to hemorrhage is known, or suspected from any cause, the following measures may be adopted:

1. In plethora—Venesection, to 12 or 16 ounces.

2. If there is any nervous excitement, Potassium Bromide, xx grs. every hour until the system is brought fully under its sedative effects.

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* New York.

† British Medical Journal, February 13, 1875.

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3. Enemata to empty the bowels.

4. Catheterism, if necessary.

5. *Empty the uterus slowly*, and allow external rotation to occur without interference.

5. Follow the contracting uterus with the hand, and have the hands of a well instructed attendant always over the organ to keep up gentle, but firm pressure, until after the *delivery, and until the bandage is applied.*

7. Remove the placenta in fifteen to twenty-five minutes, by supra-pubic expression, and very gentle traction. This must be done *slowly, and with great care.*

8. *Immediately after the delivery, a broad bandage* must be applied, extending from the trochanters to a little above the umbilicus, to support the relaxed abnormal muscles. *This is a very important measure.* (I am sorry to see a disposition to undervalue it).

9. A full dose of Ergot, at least thirty minutes before the birth of the child. Fl. Ext. Ergot, or Ergotine, may be administered sub-cutaneously. *The effect of Ergot must be secured.*

10. If the patient is nervous, give an opiate.

Measures during the Hemorrhage.—1. Secure and maintain uterine contraction, by pressure or compression—*not by kneading.*

2. Apply cold water and vinegar, ice, to hypogastrium and vulva; ether spray over the abdomen; ice in the vagina, and over the fundus uteri.

3. Sinapisms to arms, legs, *spine, mammary glands.*

4. Remove clots from vagina and uterus, if necessary. Introduce the hand into the cavity in violent cases, and stimulate contraction.

5. *Stimulate in exhaustion*—Brandy. Capsicum—a teaspoonful. I have seen *this* promptly and decidedly effectual after the failure of brandy.

6. Brandy and beef tea by enema.

7. If there is jactitation, use opium.

8. Ergot, repeated if necessary.

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9. Pressure upon the abdominal aorta.
10. Galvanization, or Faradization.

TRANSFUSION.

During the last year transfusion has been practiced more extensively than at any time in the history of the operation. It has awakened new interest everywhere. The forms of transfusion most employed and attended with the best results are—

1. Transfusion with defibrinated blood.
2. Mediate transfusion with pure blood.
3. Immediate transfusion from "*vein to vein.*"
4. Immediate transfusion from "*artery to vein.*"

The first method is most generally adopted—the danger of clots is avoided. The second is generally abandoned as leading to embolism, &c. The third method bids fair to become the popular method; it is practiced by the use of the aspirator, from vein to vein, &c.; there is little danger of clots. Dr. Aveling, who practices immediate transfusion, has invented an instrument for the purpose, and "many favorable cases are reported." The old method was from artery to vein, the blood being taken from the lower animals, generally from lambs. "A large number of successful cases are reported, mostly in Germany." Dr. Joseph W. Howe* has recently proposed the transfusion of *goat's milk*, as a substitute for human blood.

The hypodermic injection of blood is another method which has been proposed. Dr. Lendenburger† has performed this operation with improvement on his patient. I expect to see *transfusion* become popular within the next few years in *post partum* hemorrhages, in losses of blood generally, in anæmia, and many other diseases. In cases of hemorrhages, it would, of course, be useless to adopt it until the hemorrhage had ceased.

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* New York Medical Journal, May, 1875.

† Medical Corr. Blatt. 20, 1874.

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DYSMENORRHŒA—PIN-HOLE CERVIX.

In a discussion of the subject of dysmenorrhœa, which took place recently in the Obstetrical Section of the British Medical Association,* Dr. Matthews Duncan said, "He had met with the pin-hole cervix only once in a few years in a large practice. The pin-hole os was rare, and when it did exist, it did not cause dysmenorrhœa. A pin-hole os was large enough to allow a woman to bleed to death in a few hours. The whole history was fallacious. Mechanical dysmenorrhœa was *spasmodic.* The cervix might be cut off without benefit. Mechanical treatment was useful, but must be employed with care. The simplest treatment is the best. Many cases were cured by the single passage of a bougie. A well marked analogy is to spasmodic stricture of the urethra. *Spasm of the uterus is the essence of dysmenorrhœa.*"

Dysmenorrhœa—Treatment with Nitrite of Amyl and Belladonna.—Dr. Mary Putnam Jacobi† read a paper on this subject at a recent meeting of the New York Journal and Library Association. "Spasmodic contraction of the blood vessels, resulting from irritation of the vaso-motor nerves, is the cause of pain in spasmodic dysmenorrhœa. Upon these considerations the remedies are used. Belladonna is to be administered previous to the occurrence of menstruation to produce its *secondary effect*, which is dilatation of the blood vessels. Nitrite of amyl is used for relaxing blood vessels. This is the physiological action of it. Great relief is afforded in all cases of dysmenorrhœa." Commence the belladonna several days before menstruation, and when the pain comes, administer by inhalation two to six drops of nitrite of amyl, *pro re nata.*"

Dr. Sell remarked that he was in the habit of administering nitrite of amyl by the mouth. He prescribed one-drop doses in peppermint water, one drachm every half hour. This method was just as good as when the remedy was inhaled.

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* British Medical Journal.

† Medical Record, January 2, 1875.

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Dysmenorrhœa—Obstructive.—This form is considered by Dr. Barnes* the most common. Mechanical obstructions to excretion are the most important factors in dysmenorrhœa; they are most frequent at the orifices of the genital canal. The essential condition of dysmenorrhœa is *retention of menstrual secretion.*" Mechanical stretching of the cervix by means of tents and dilators of all kinds will produce only *temporary* relief, just as in case of organic stricture of the urethra. After one or two periods all of the phenomena recur, unless, in the meantime, impregnation takes place. He recommends a bilateral *division* of the vaginal portion of the cervix. This *should not* extend to the external os, nor involve the blood vessels which are found in that portion of the uterus. Kuchenmeister's scissors, or a single-bladed uterotome, may be used for the operation. There is little danger in the operation. The after-treatment consists in keeping the divided portions separated by interposing lint saturated with carbolized oil." The operation recommended by Simpson, Hewitt, Sims, Thomas, and others, is incision *through* the internal os. This involves considerable risk, and should not be done unless there is urgent necessity for it. Dr. T. G. Thomas, in a case of this affection, the obstruction being at the os externum, which barely admitted a fine probe, removed with a bistoury a small ring of cervical tissue from about the os uteri. He speaks of the operation as devoid of danger.—(*Medical and Surgical Reporter.*)

VAGINAL INJECTIONS.

At a meeting of the Dublin Obstetrical Society,† Dr. Thos. Moore Maddin gave a history of a case of intense uterine colic, followed by severe metro-peritonitis, which came on suddenly during the use of an instringent injection with an ordinary vaginal syringe. Complete collapse followed, with incontrollable retching, the patient being in considerable peril

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* Medical and Surgical Diseases of Women.

† February 13, 1875. Irish Hospital Gazette, p. 223.

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for several days. The symptoms were due to the injected fluid having passed through the patulous os into the cavity of the uterus, which was in a state of sub-involution, and by the escape of a portion of it through the dilated Fallopian tubes into the peritoneal cavity. Dr. F. D. Lente* reports a number of cases of uterine colic, &c., from vaginal injections. I have seen a number of other cases mentioned in the medical periodicals during the last year.

I have had several cases in which great pain, uterine colic, pallor, cold sweats, &c., followed ordinary injections of tepid water with a Davidson's syringe. In two cases, severe metro-peritonitis, which recovered after a very serious illness. In one case, pelvic cellulitis followed the injection, and terminated in abscess, and put the patient's life in imminent peril. It was not until months of great suffering that partial recovery took place. My own sad experience occurred before I saw any cases reported. Vaginal injections are used freely and extensively for a *special purpose*,† and often with *cold water*, and the number of cases of disordered menstruation, and other troubles referable to the reproductive organs, due to this cause, is largely on the increase. At certain times there seems to be a suction force exerted by the uterus, which tends to carry fluids into the cavity. The central hole in the nozzle of the syringe should always be closed so that no fluid can be forced into the cavity.

DYSPAREUNIA,

a word coined by Dr. Barnes to signify pain or difficulty in coition, "derived from *duspareunos*, a word used in this sense by Sophocles." The causes may be congenital or acquired. Absence or imperfections of vagina or vulva, unyielding hymen, &c., atresia of vagina or vulva, inflammatory affections of the pelvic organs, especially colpitis, resulting from acute gonorrhœa, or other cause, vaginismus, give rise to dyspareu-

* New York Medical Journal, September, 1870.

† To prevent conception.

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nia. May result from disproportionate development. This is observed in young girls who marry before maturity. May happen in women who marry late in life. After the climacteric, the uterus, vagina and vulva undergo atrophic involution, and the tissues lose their elasticity. Sexual relations may be painful or dangerous under such circumstances. The condition called *coccyodynia* may be a cause of dyspareunia. The cause is not always confined to women—cases may be traced to the other sex. Imperfect or awkward intercourse induces a *chronic nervous irritability which in turn renders approach intolerable.* This is not an infrequent source of distress in couples ill-matched as to age, physical strength, and disposition." No matter what the cause may be, "dyspareunia" gives rise to much unhappiness, and disruptions of conjugal relations may often be traced to this cause.

ABDOMINAL OVARIOTOMY.

This operation, though violently opposed by a large majority of the profession, until within the last fifteen or twenty years, is now recognized as a legitimate and justifiable surgical procedure. No great improvement has been made, so far as the mortality is concerned. Statistics of more than two thousand cases show an average death rate of one in 3¼. The success of McDowell was nearly equal to this. There is no unanimity on the manner of securing the pedicle. Dr. McDowell ligated the pedicle with a strong twine, and left it dependent at the lower angle of the wound, and thus *drainage* was secured. Drs. Tyler Smith and Peaslee use a strong ligature, cut it off short, and return it into the cavity of the peritoneum. Duffin, Erichsen, Huchinson, Spencer Wells, Baker, Brown, Keith, Kœberle, Atlee, Thomas, Kimball, secure the pedicle externally, with a clamp. This appears to be the most popular method. Dr. J. Marion Sims' method is tying the pedicle with silver wire, which he says becomes sacculated, and there is no harm; when the pedicle is broad, he secures it with a number of wires in segments. It is stated that Dr. Emmet also practices this method. Dr. Bebee has proposed torsion of

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the arteries. Dr. T. G. Thomas,* in speaking of the abdominal incision, says: "The most rational deduction to be drawn from the facts is, that the shorter the incision by which the sack can be removed, '*tuto, cito, et jucunde,*' the better for prognosis." The greatest improvement is that which was brought prominently to the attention of the profession, by Dr. Sims, in a paper published December, 1872,† viz., that of *drainage* of the peritoneal cavity, to prevent septicæmia. Drainage was effected by the use of the Chassaignac tube, passed through the Douglas *cul de sac*, and through the vagina. Through this the cavity was regularly washed out, with carbolic water or other fluid.

Through the courtesy of Dr. Sims, I saw one of his cases, with this drainage tube in situ. I was most favorably impressed with his views with regard to the importance of drainage, to prevent septicæmia, &c.; yet I could not think his method free from danger. The presence of such a tube through the retro-uterine *cul de sac* must, in itself, prove a source of great irritation. I do not know what his subsequent experience has been.

Dr. T. G. Thomas, recognizing the importance of drainage, recommends a glass tube about 8 inches long, of a diameter of ½ to ¾ inch, which is inserted just above the pedicle, and passed to the depth of the Douglas pouch—in every case, except when there was no fluid. When a *method* of *drainage* which secures the object without any danger, is discovered, I think there will be great improvement in the death rate. Septicæmia is the cause of death in a very large number of cases.

VAGINAL OVARIOTOMY.

This operation has been performed by Dr. T. G. Thomas, and has been twice repeated; once by Dr. Gilmore, of Mobile; and once by Dr. Battey, of Georgia; and possibly by others.

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* Diseases of Women, 1874.

† New York Medical Journal.

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Dr. Thomas* says: "I feel sure that this procedure will, when its merits are fairly tested, occupy an important place in the treatment of ovarian cysts. It is fully as easy of performance as abdominal ovariotomy; is evidently attended by much less danger; holds out to the patient the opportunity of avoiding many weary months of suspense, in anticipation of that more grave procedure; is equally applicable to multilocular and unilocular cysts; gives abundant facilities for securing the pedicle; and is, so far as my experience and knowledge go, defensible as a surgical procedure against all but theoretical objections."

NORMAL OVARIOTOMY.

Proposed by Dr. Battey, of Georgia. He claims "that this operation is new in surgery; is original with himself in its conception, elaboration, and successful execution."

What he proposes is this: "Ovariotomy to determine the change of life; and the change of life for any grave disease, which is curable with it, and incurable without it."

1. Determines the change of life.
2. Sterility results.
3. Does *not* involve a loss of aphrodisiac sense.
4. Does not involve a loss of feminine graces.

The operation has attracted some attention. Two operations have been performed in New York. One by Dr. T. G. Thomas, in which both ovaries were removed, "with great improvement;" the second by Dr. Sabine, in which the left ovary was removed, and with a cure reported as the "result." Dr. Gilmore, of Mobile, has operated once, the patient dying several months afterwards. I have seen no report of Dr. Battey's operations.

I am not now favorably impressed with the operation. Castration will not cure spermatorrhœa; neither can I believe the removal of the *testes muliebres* will cure the diseases for which it is recommended. I am disposed to class it with the

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* Diseases of Women, New Edtion.

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operation of Clitoridectomy of Isaac Baker Brown—"The removal of the clitoris for the purpose of curing epilepsy, is an operation which has met with little favor. The evidence which has been hitherto adduced, has failed to satisfy the profession that the operation succeeds in its object."*

UTERO-GASTROTOMY.

At a recent meeting of the New York (State) Medical Association, Dr. J. Marion Sims† made some remarks on this subject. Having read a paper at the last annual meeting on the removal of intra-uterine fibroids by enucleation, he now proposed to speak of the removal of larger uterine fibroids by abdominal section—whether intra-uterine, interstitial, or extra-uterine in character. This operation is on trial. It stands where Ovariotomy did twenty years ago. It has the same opposition to encounter, and will doubtless achieve the same success. In this country it has been performed successfully by Kimball, Burnham, Boyd, Storer, Darby; in England, by Clay, Fletcher; and recently by Lawson, Tait, and Kœberle." Dr. Sims has operated twice for the removal of the uterus with a large fibroid, by abdominal section. Both cases were unfavorable for the operation, and both terminated fatally.

Myo-Fibroid Tumors of the Uterus treated by Hypodermic Injection of Ergotin, by H. Hildebrandt, of Konigsberg.

The first paper‡ detailed nine cases in which the only treatment were subcutaneous injections of ergotin.

Case 1. Fibroid, as large as a child's head. Disappeared at the end of six months.

Case 2. Same size. Disappeared in six months.

Case 3. Twice the size of a man's head. Reduced in six months to the size of a hen's egg.

History of other cases similar. The second paper|| has

* Diseases of Women, by Graily Hewitt, 1874.

† New York Medical Record, February 15th, 1875.

‡ American Journal of Obstetrics, 1872.

|| American Journal of Obstetrics, 1875.

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been published recently—19 cases given. In six, removal of the symptoms and diminution of the size of the uterus. In eleven, but little was accomplished in the diminution of the tumor, but *material* improvement in the symptoms. In two cases, no favorable influence was exerted on the tumor or on the symptoms. The theory of the action is that ergotic contraction of the uterus suspends the nutrition of the tumor, and fatty degeneration takes place. This method has now been so far tested that it certainly promises better results than any other in these cases.

CERVIX UTERI.

Being very accessible, the os and vaginal portion of the cervix uteri have been more frequently subjected to treatment than any other portion of the uterus. The greatest improvement which I note here is the disposition to abandon the more powerful caustics, and to rely on the milder forms of medication. Of the medicines which I have employed in abrasions and ulcerations of the cervix, and in inflammation of the cervical glands, I prefer zinc. sulph. It is not a panacea, but in my hands it has proved more beneficial than any other remedy. There is a disease of the cervical glands which Dr. Thomas* attributes to inflammation, and for which he recommends "destruction and ablation of the diseased glands, by means of Sims' curette for the radical cure." This condition has been met with by every gynecologist of much experience, and such cases may prove "very obstinate." I have succeeded in curing the obstinate cases by the use of zinc. sulph. In cases in which a few applications of pulv. zinc. sulp., made every five or six days, do not prove effectual, slight scarification should precede the application. I cannot bring myself to believe that the destruction and ablation of these glands by the use of the curette is a justifiable procedure.

Dilatation with Sponge or Laminaria Tents.—Three cases of death have been reported recently from dilatation of the cervix

* Diseases of Women, 1874.

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uteri with tents. In each case the unfavorable symptoms supervened after the *third tent* was used. I have had very unfavorable symptoms to come on after using the *third tent* on consecutive days—as febrile irritation, soreness, &c., and in two cases metro-peritonitis, in which recovery occurred after a painful and protracted illness in both. I have not seen any bad symptoms from the *first* tent, and no great amount of trouble from the *second*, except soreness, &c. I never use the third tent now on consecutive days.

INTRA UTERINE MEDICATION.

This subject has been most earnestly and freely discussed recently by leading gynecologists, both in this country and in Europe. Since the important papers of Dr. J. C. Nott,* Dr. E. R. Peaslee,† and Dr. F. D. Lente,‡ were published, more general attention has been directed to it. There is not yet entire unanimity of opinion in regard to the safety and importance of topical applications to the endometrium. In the discussion of Dr. Nott's paper in the Medical Society of the County of New York,‖ Dr. T. G. Thomas was emphatic in his condemnation of his practice. In his recent work, Diseases of Women (1874), he says: "Our chief hope of affording relief (*chronic corporeal endomitritis*) must rest upon the general measures just mentioned (good diet, fresh air, &c., with medicinal tonic), and *upon the direct application to the diseased surface of alterative remedies.*" Dr. Barnes (Diseases of Women, 1874,) says: "Topical applications to the diseased membrane (chronic endomitritis) are in many cases essential to the cure." Dr. Graily Hewitt (Diseases of Women, 1874,) says: "The favorable result is *attributed* to intra-uterine topical applications (chronic endomitritis), but the result is sufficiently explained by the *dilatation*, which, by *straightening* the

* New York Medical Journal, June, 1870.
† New York Medical Journal, July, 1870.
‡ New York Medical Journal, September, 1870.
‖ New York Medical Journal, August, 1870.

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canal, renders it thoroughly patent, and allows of the escape of the secretion; the retention of secretion does not then occur. For a time, in many cases permanently, the cure is complete. My interpretation of the facts is borne out by the fact that without employing intra-uterine topical applications, I have found these affections removed *by the straightening process alone.* Two methods of intra-uterine medication have been proposed, viz: *Ingestion* and *injection,* and each of these has its advocates. Dr. Thomas Kammerer and others favor injections; Dr. Peaslee thinks it is far better to inject the remedy to be applied. Dr. J. Whitehead,* in a paper on this subject, suggests that *fluids* may be carried into the peritoneum by capillary or ciliary action. He prefers the use of solid or unctuous substances." Barnes says: "A most precious way of applying astringents, caustics, solvents, or alteratives to the interior of the uterus, is in the form of ointment or pasma. In this way almost any substance may be applied. Where grease is objectionable as a vehicle, a pasma or suitable consistence may be made by glycerine or other substances. In this form we may use remedies which cannot easily be used in any other way. For example, we can hardly use bromine or iodine or mercury in a solid shape, and to use them in a liquid form is open to objections already discussed. Almost anything can be made into an ointment or pasma, and we thus get a complete practical command over a large range of useful agents."

A synopsis of precepts to be observed in intra-uterine medication, compiled from Peaslee, Thomas, and Barnes:

1. Secure free dilation of the cervix uteri.
2. Use a very small quantity of fluid—not more than one drachm to two drachms—before allowing it to return.
3. Inject without *force and very slowly.*
4. Use a double canula to secure a return current.
5. The temperature of the fluid should be 85 or 90 deg.
6. Be sure there is *no air in* the syringe.
7. Keep the patient in bed until after all discomfort passes

* British Medical Journal, 1873.

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off which is caused by the treatment. Upon the occurrence of pain use morphia hypodermically.

8. Never make applications just before or just after a menstrual period. No precautionary measures can ever render applications to the cavity of the uterus, either by ingestion or by injection, entirely free from danger. Injection is certainly the more hazardous method. My own experience leads me to employ this treatment only as a dernier resort.

FLEXIONS AND VERSIONS

are now almost universally treated by straightening and repositing the organ and applying a pessary. Several kinds have been invented, but the most popular one is Hodge's lever and the various modifications of it. Dr. T. G. Thomas has recently invented *stem* pessaries, which have succeeded so well in his hands that he recommends their employment with proper precautions.

INVERSION OF THE UTERUS.

This accident is certainly becoming more common, if we may judge from the number of cases reported in the last year or two.

Dr. J. P. White's repositor for the relief of this accident has been employed with great success. (See N. A. Journal of Medical Science, January, 1875.) The instrument is figured in the new edition of Thomas, p. 430.

THE ASPIRATOR.

This instrument is becoming very important in the diagnosis and treatment of many diseases with which the gynecologist has to deal.

There are many other important subjects which it would give me pleasure to report on, if the limits of a paper of this kind would permit. I have selected those which I have deemed of most interest to the profession in the State.

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CASE OF PUERPERAL ECLAMPSIA.

BY MERRIWETHER LEWIS, M. D., OF LENOIR, TENNESSEE.

I was called early on the morning of the 20th of June, 1875, to see Mrs. S——. The messenger simply stated that she was having "fits," but learning that she was quite advanced in pregnancy, I suspected puerperal eclampsia, and so took my forceps and a good supply of chloral.

On entering the room, I was told that she had just emerged from the tenth convulsion, but that there had been, as yet, no labor pains. On examination, however, I found the os dilated slightly, and the head presenting in the first position of the vertex.

The patient was thirty-five years old, the mother of nine children, three of whom were still-born. Had been attacked with convulsions in three of her earlier labors, and in each instance the child had been lost.

These facts were elicited by a few rapid questions as I was making the examination, and I was soon admonished that it stood me in hand to act promptly, or I would be too late to do any good. She was heavily built and plethoric, so I bled her, taking from her about twenty-five ounces. Then by holding her, some forty grains of chloral hydrate in solution were given, and followed promptly by half an ounce of fluid extract of ergot, artificial rupture of membranes, and rapid induction of labor.

In an hour—during which time another convulsion came on, and for which thirty grains of chloral were immediately given —the os being sufficiently dilated, the forceps were applied, although the head was still high in the pelvis, and but slightly rotated, and delivery safely effected in less than three minutes.

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As soon as the child, which was slightly asphyxiated, had received proper attention, according to my usual custom I introduced my hand into the uterus, and, carefully detaching the placenta, withdrew it. A small fragment, however, remaining in the uterus, I was about to remove it, when I encountered a new complication, which was nothing less than a well-marked case of the globular contraction of Ramsbotham. It was in vain that I attempted to dilate the strictured os, and concluding, on good authority, that more harm than good was likely to result from persisting in my efforts, I left the case to Nature.

On returning the next day, I found the uterus firmly contracted, as large as the fœtal head, and hard. The os still remained contracted, like a vice. There had been one convulsion during the night, and I prescribed chloral and bromide of potash, and directed a free employment of injections of warm water, with a Davidson syringe.

But the case seemed to grow only worse, for the next day symptoms of septicæmia appeared. The patient was racked with pains from head to foot, the abdomen was swollen, the pulse weak and rapid, and the countenance anxious. I saw that only prompt and energetic treatment could save my patient from death. Accordingly, I resolved to stake my chances for success on three remedies, carbolic acid, opium, and quinine. She received two grains of opium and ten grains of quinine every four hours, while carbolic acid, in warm water, was injected every two hours.

The fourth day came, and I was again at the bed-side. At last the vicious spasm was exorcised, and the os fully relaxed. I had been holding back ergot like the English Guard at Waterloo, for the decisive hour. That time had now come, and the word was "up and at them." Two drachms fluid extract of ergot were given at one dose, and in half an hour, the fundus contracting, and the os still relaxed, fully two gallons of water were thrown into the vagina and uterus, and large quantities of decomposing blood-clots and lochial discharges were washed out.

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Henceforward the patient's improvement was steady and rapid. Her bowels were moved with castor-oil and ipecac, her appetite and strength built up with tincture of iron and phosphoric acid, and soon the case was dismissed, completely cured. Venesection, chloral, induction of labor, and forceps delivery, thus cut short an attack of convulsions the most terrible I ever beheld, an attack that would have lasted for hours, and perhaps have terminated in the death of both mother and child.

CASE OF TRAUMATIC TETANUS.

BY JOSEPH H. HOOPER, M. D., SOUTH HARPETH, TENNESSEE.

AUGUST 10, 1875.—Was called, at one o'clock in the morning, to see Lee Ewing, colored, who was standing upon the power-wheel of a thresher, driving the team, when he allowed his whip to become 'foul in the cogs, and in attempting to disengage it, let his right hand pass in between the cogs, crushing off the four fingers, and reducing the thumb to a pulp.

I removed all small particles of flesh clinging to the wound, and ordered cold-water dressing, and one-fourth of a grain of morphia every hour until quiet was produced.

August 12.—Visited patient again, and found the wound in good condition. Ordered morphia *pro re nata.*

August 13.—Called to see my patient, and found him doing well.

He continued to improve, and, on the seventh day, returned to the thresher against my orders, and stood upon the platform in the hot sun all day. Suffice it to say that on the ninth day, August 19th, I was called in haste to see him, and found him

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hold of a rope suspended from the joist, saying, to use his own expression, that "lightning was darting from the back of his head to his heels." His skin was moist and cool; pulse feeble but quick; complained of great pain when he attempted to open his mouth, and could only get his jaws a short distance apart. Opisthotonos, and a rigidity of the bowels, surpassing anything of the kind I have ever met. The wound was intensely red, with little specks of blood dotting its surface.

Ordered wheat-bran poultice to wound, as hot as patient could bear it, and repeated as often as poultice began to get dry. Chloroform, in teaspoonful doses, every hour.

August 20.—Found patient but little better, but no increase in intensity of spasm.

August 21.—Patient a little better. Ordered same treatment, without the addition of any other medicine.

August 22.—Found patient much better, with but little tendency to spasm. Copious evacuation of the bowels; wound suppurating nicely.

He continued to improve, and by the last of September was able to resume his work again.

I also relieved another case of strong symptoms of tetanus with large doses of chloroform. It is my sheet-anchor in tetanus.

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Selected Articles.

VARIATIONS IN THE PULSE OF DIFFERENT ARTERIES.

BY DR. MORIZ BENEDICT, OF VIENNA.

One of the secrets of the organic world is the differentiation of homogeneous cells, whence result, in the course of development, their different functions. But it is likewise astonishing, how the well-defined specific nature of the different elementary parts can be maintained permanently, bathed as they all are in a nutrient fluid uniform in composition. Of primary importance for this purpose is the difference in the nature of the filtering walls of the vessels, though we are not acquainted with the details of that arrangement.

A second factor, resulting in different exosmosis in different tissues under the same central pressure, is the specific mode of distribution of the blood-vessels and lymphatics. Amongst anatomists much engaged with injections, it is a test of ability to recognize the source of such preparations, especially microscopical specimens. This relation is the most interesting in the brain, where there is an aggregation of nerve-cells, almost identical, chemically and histologically, and still endowed with such vastly different functions. Facts in toxicology, rather than micro-chemistry, demonstrate the great multiplicity in the chemical affinity of elements scarcely distinguishable by their anatomical characters.

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Ecker has learned from his injected specimen that every part of the brain can be recognized by the vascular disposition peculiar to it. I will also call to mind at this place the peculiar relation of the large peripheral lymph-spaces in the arachnoid cavity of the brain, as well as the subadventitial lymph-spaces. During life, there exists in the brain a normal accumulation of lymph (hyperlymphosis), the distention of the arachnoid cavity with fluid being dependent on the blood pressure. At the moment of death, the reimbibition into the tissues commences—a fact formerly known, upon which special stress has been laid lately by Schiff and Hitzig. These entire lymph-spaces, and in particular the subadventitial spaces, are adapted manifestly to the peculiar conditions in the brain, which, more than any other organ, may be exposed for weeks, and even months, to an unusual exertion, an unusual tissue-change, which, without special protective arrangement, would soon lead to alteration and destruction of the chemical individuality of the different elements. The unusual reservoirs and means of drainage for the nutrient fluid furnished in excess, and the excreta of the local process of nutrition are, however, adapted to serve as protective arrangements; at the same time they are best calculated to prevent concussion of the brain.

Another peculiarity of the brain is the fact that not only corresponding surfaces of both hemispheres are, as a rule, excited simultaneously, but that, in the exercise of psychical functions, elementary parts of the hemispheres widely distant are brought into synchronous excitation by irradiation. This relation is dependent on an intimate connection of the circulation; accordingly, we find not only communications between all arteries in the circle of Willis, but also, as Ecker, and, more lately, Heubner, have pointed out, do we see inosculations between the districts of the individual vessels in the pia mater, and hence, likewise, between the branches dipping into the cerebral convolutions.

But even these hydrostatic arrangements, as the result of which the central pressure is modified in the different tissues, would not suffice to maintain the chemical individuality of the

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tissues, were it not for another provision, capable of altering the velocity and tension of the blood. In artificial or functional irritation, as well as in irritation owing to contiguity of distant tissues, there must be some provision, by means of which the hæmadynamic conditions may be regulated according to the momentary requirements. The altered chemical condition of the irritated elements is one cause of an altered attraction; another factor is to be sought in the altered hæmadynamic mechanism.

The local regulators of the acceleration or retardation of the blood velocity, or alteration of the blood pressure, are the vaso-motor nerves. Through their influence the musculature of the vessels, which is but too imperfectly understood, attains the importance of a local heart. This local heart is not capable—except in the hepatic artery—of augmenting by its activity the number of pulse-beats, nor can it probably reduce it, but it is able to bring about peculiar conditions of pressure and velocity, so that in the variety of association of activity of the separate nerves in a certain vascular district, we have not only an essential factor for the specific nutrition of the tissues, but also for an increase of nutrition during the time of exalted activity, and *vice versa*. To the same arrangement the trophic processes can be referred, and the time is probably not far distant at which we can trace a great part of the pathological processes to such disturbances of the local hearts, which take their origin in distant parts of the nervous system.

We know, at present, from the researches of Ludwig and Cyon, that an irritation starting in the heart can cause reflex dilatation of the vessels. On the other hand, we can hardly doubt but that the increase of central motive power on the occurrence of contraction of peripheral vessels, is also of reflex origin. Besides, we see, in inflammatory fever, how intense local disturbances of circulation give rise to general disturbances of the vaso-motor nerves; we see also, in the initial rigor, how the compensation of intense local dilatation of vessels is subject to physiological and *not* to hydrostatic laws. In fact, we can say that the different local hearts are connected

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most intimately with each other and with the central heart by means of nervous bonds, the relations of which have been but imperfectly demonstrated by the means of anatomy and physiology.

It would be of the greatest importance to study in general the physiology of the terminal arteries, those branches regulating the nutrition of the organs; this, however, can be but imperfectly accomplished. But, fortunately, we are able to observe the distinct disturbances occurring in a terminal artery, *as a rebound—an echo, so to speak—in the larger arteries*, though this idea, and its resulting observations, have not yet been carried out by physicians. Even in physiology we still meet with the methodic error of referring changes of tension caused by experimental stimulation or paralysis of nerves, which are observed in one region—to the entire vascular system. But in fact we can observe such local alterations in certain vascular districts, on the large vessels, the pulse of which is perceptible to the finger, and some noticeable observations have induced me for some years to feel the pulse simultaneously in different arteries.

The first two observations are the following:

A lady of about 40 years of age came under my observation, with all the symptoms of an obstructed circulation in the arm. The hand was pale, cold, insensible, and at the same time painful. No pulse could be felt anywhere along the arm. The pulse of the subclavian artery was enormously full, so that at first sight the existence of an aneurism appeared probable. The history showed that this was not a congenital state, but only of eight days' duration. Embolism and thrombosis could be excluded on account of the relative want of importance of the symptoms, and the idea occurred to me that there existed a vascular spasm, not sufficiently intense to stop the circulation, but sufficient to render the pulse imperceptible. The attempt to remove this state of the vaso-motor nerves by belladonna and galvanization did not succeed; but after a few days the normal condition returned.

The subject of another observation was a young girl, com-

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plaining of headache and palpitation of the heart. On examination, I noticed that both carotid and both radial arteries showed an unusual, though equally full, pulse. Besides, all symptoms of an insufficiency of the bicuspid valve were present. The unusual fullness and hardness of the pulse in the region of the ascending aorta gave me the idea of examining the pulse in the region of the descending aorta, where I found that no pulse could at all be perceived.

Recollecting my former case, the thought occurred to me that there might be, in this case also, a spasm of the arteries in the latter region; but a congenital obliteration in the descending part of the arch of the aorta was first to be excluded. All appearances of a collateral circulation was wanting. I insisted on a consultation with a celebrated authority on diseases of the circulatory organs. Shortly afterwards, the pulse re-appeared in the lower extremities, and the abnormal characters of the carotid and radial pulse disappeared, and even the apparent cardiac lesion was said to have vanished subsequently.

I made some other very striking observations on two other patients. One of them suffered for a long time from clonic spasm, consisting of flexion of the carpus, which involved occasionally also the elbow-joint, persisting for hours, and accompanied by diminished sensibility of the fingers; its duration was shortened by warmth. The attacks occurred repeatedly during the day, and would sometimes last during a whole day. After severe attacks, a sense of constriction was felt in the chest, the radial pulse was not perceptible on the right side, while on the left side it was very small and irregular. One day, when the patient had just passed out of an attack, an attempt was made to enlarge the pulse by nitrite of amyl.* In this I succeeded very promptly, and after the experiment had been repeated twice, both on palpation and auscultation, a momentary arrest of the heart was observed, while a deep

* Riegel has lately used this remedy to dilate the arteries in lead poisoning.

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bronchial respiration was heard. After a few seconds the heart-sounds became audible again, and after the lapse of ten minutes, the cardiac impulse was very powerful. The radial pulse remained full for some time. (Still the attack continued for some hours, notwithstanding the experiment.)

This experiment shows also what extent the vascular spasm can attain. A permanent enlargement of the pulse was only obtained by galvanization of the sympathetic; whether, however, a cure was effected, I could not learn.

A second instance was the case of an epileptic man, whose attack was always preceded by a premonitory vaso-motor symptom, in the shape of circumscribed redness of the left cheek.* I saw the man one day at this period, and an examination showed the pulse filiform in the carotid as well as the subclavian and radial arteries and the lower extremities. By strong galvanization of the sympathetic I succeeded in rendering the pulse fuller, and the attack was prevented.

No less striking are the appearances in *tic douloureux*, where either the pulse of the carotid artery is full during the attack, or on the hand very small. That the carotid artery can be dilated like an aneurism by the expansion of the places of origin of the smaller arteries, I have witnessed both in tic douloureux (*vide* Case 87 of the "*Nervenpathologie*,") and hydrophobia. In the former case the abnormal distension of the vessel disappeared with the affection, and in the latter case no anomaly was found in the cadaver.

Spasms of vessels or pareses in limited vascular districts are also a common symptom in hysteria.

I attach special importance to this method in diseases of the brain. Under normal circumstances, a difference is often noted between the pulse of both carotids, and, as a rule, the radial pulse corresponding to the large carotid artery is in that case the smaller. In hemiplegia and cerebral disease, I have repeatedly observed, that on one side (in the former case, the

* I will here insist that an epileptic attack rarely occurs without vaso-motor or psychical prodramata.

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paralyzed side) both the pulse of the common carotid and of the arteries of the arm was small and filiform. Such a condition denotes a profound disturbance of circulation by dilatation in numerous vascular districts, and my idea to prognosticate from this condition the danger of apoplexy has, in several instances, been unhappily confirmed.

In Basedow's disease the pulse is usually large in both carotids, and correspondingly small in both radial arteries.

I am not, at present, enabled to perfect these observations on a larger scale; I can, therefore, merely recommend them most urgently to my colleagues. We can expect from this method not only the discovery of special facts, but even a further illumination of the causes of trophic processes, and an increased accuracy of prognosis. Especially in local inflammations in the extremities can the observation of the local arterial tension be of interest.—*Translated for the Chicago Medical Journal, from the Wiener Med. Presse, No.* 18, *May* 2, 1875, *by Dr. H. Gradle.*

CASES ILLUSTRATING THE TREATMENT OF HÆMORRHOIDS AND PROLAPSUS BY THE CLAMP AND CAUTERY.*

BY HENRY SMITH, F.R.C.S., SURGEON TO KING'S COLLEGE HOSPITAL.

Two years since I had the honor of bringing before the Fellows of the Medical Society of London the results of my experience of 300 cases of hæmorrhoids and prolapsus of the

* Read before the Medical Society of London.

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rectum operated upon by clamp and cautery—a method of treatment which I had prominently brought before the profession eight years previously, when I had the honor to deliver the Lettsomian Lectures from this place. The aforesaid results were fairly laid before you in this paper, and, as some of you remember, were pretty freely discussed and criticised. Since that period my experience of the operation has brought my numbers up to more than four hundred cases; and now that I have reached this point, and more especially as the experience of the last two years has enabled me to illustrate this operation by cases of greater severity and variety, I have thought it right to furnish you with the information which these additional cases have afforded me. You are aware that I have always contended that the operation by the clamp and cautery, as modified by myself, is a much safer and more satisfactory one than the old-fashioned plan of using ligature. The large experience which I related to you two years ago quite confirmed me in the views which I entertained about the plan of treatment when I delivered the Lettsomian Lectures. I am glad to say that this experience has been shared with me by many surgeons, not only in this country, but in America, India, and Australia; and the manner in which these gentlemen have spoken of the plan of treatment has been most gratifying.

It is not necessary for me to go into the details of the operation which I perform, as they were very minutely pointed out in my lectures, and I believe they are familiar to most surgeons. I will only briefly state that the main feature in this treatment consists in removing the diseased growths or tumors immediately, and arresting or preventing hemorrhage by the application of the actual cautery. The fixing and removing of the growths are effected by the application of the screw clamp, and the subsequent use of scissors. The operation has the advantage of being completed at once, whereas in that proceeding which had been heretofore so much used, and indeed by some surgeons is used now, by the ligature, the operation cannot be completed at the time, and a given number of days

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must be allowed to pass before the complete removal of the diseased structures, which have been strangled by the ligature for the purposes of preventing hemorrhage and causing sloughing and ulceration of the parts involved. This application of ligature to numerous sensitive growths and their subsequent separation are of necessity attended with much local and general disturbance, and when the ligature separates at the end of a week there is still a large raw surface left, and of necessity the patient is confined to bed or his house for a much longer period of time than if the tumors had been bodily removed at once. However, these matters were freely discussed by me at the time, and they have been freely, and somewhat fiercely, fought over since in this room, and in the journals, and I shall not take up your time to-night in going over the ground again; but, just to show the extraordinary nature of the opposition which has been urged against the operation, I may state that one well-known surgeon wrote a long letter to *The Lancet* denouncing the operation. Luckily for me, but most unluckily for himself, the writer let it appear that he had never once made trial of the operation. Another well-known surgeon wrote a book on diseases of the rectum, and so zealous were his efforts to prevent the clamp and cautery operation from coming to the front, that he stated one of the main objections to it consisted in this fact—that the proceeding lasted over an hour. It has often been a source of great amusement to the numerous spectators in King's College Hospital to hear this quotation when they have just witnessed the performance accomplished by me in a few minutes. Of course to such objectors no answer need be made, but others, like my friends Mr. Allingham and Mr. Cooper, have criticised it after having tried it, and such men have a right to be heard, and if they have not seen the merits of the treatment as clearly as I have, I can only hope that their conversion may arrive in time.

And, now, as regards the first and more important point furnished by the present series of cases—viz., the death-rate. When giving the results of my 300 cases, I had to mention the particulars of three cases in which death followed my ope-

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ration; and, without repeating the details of these cases, I may here state that in all three patients the constitutional powers of life had been so reduced by long-continued hemorrhage in two, and suspected organic disease of the liver in the third, that the deaths could not be fairly attributed to the particular kind of operation. I was in hopes that, when I presented you with my 400 cases, I might be able to say I had not another death to record; but I regret to state that one more death has resulted, and I believe may be fairly attributed to the particular kind of operation performed, and here are the details.

It occurred in the person of a gentleman between sixty and seventy, who had suffered long and painfully from a very severe prolapsus of the rectum, consisting of a mass of mucous membrane and large folds of thickened integument, forming a large tumor. I unfortunately, as I believe now, determined to remove this growth at one operation, and proceeded to use the clamp. I first clamped three portions of the mucous membrane high up, and applied the cautery; but, on proceeding to unscrew the clamp, I found one or two large vessels bleeding profusely. Knowing from previous experience that I could stop any hemorrhage from the rectum by the cautery, I put on the clamp again and re-applied the cautery very vigorously, and completely arrested the bleeding. I then removed the whole of the large external mass with the scissors. The patient bore this severe operation very well, and did not have any bad symptoms the next day; but on the night following he was restless. On the third day he was suffering from abdominal pain, and soon got the anxious face accompanying peritonitis. The symptoms rapidly increased, and he died on the fifth day. Unfortunately, I did not get any post mortem examination.

Now, on reviewing this case I cannot doubt that the death was due to peritonitis produced by the too excessive employment of the cautery; and I think it possible that I may even have injured the peritoneum, for we know that in some of these very old and large cases of prolapsus the constant descent and dragging on the peritoneum may dislocate, as it were, that

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membrane, and bring it down much nearer to the anal orifice than natural, and that it may be injured; at all events, if it were not directly injured, the mischief must have extended to it from the adjacent tissue. I was much distressed at this case, for I believe it ought not to have occurred, and I do not think it is very likely to occur again; for since this event, now just two years ago, I have in such—of which I have had repeated instances—contented myself with clamping the mucous membrane very sparingly, and have been very liberal in removing the external or muco-cutaneous portion of the prolapsus, and in one or two very severe cases I have performed the operation in two sittings—viz., by clamping the mucous membrane first, and in a week or ten days afterwards dealing with the outer part. This case, I am happy to say, is the only instance where death has resulted, and I have had more than ninety cases since this occurred, and cases of the very worst description, where most certainly I should be afraid to use the ligature, in consequence of the mass of tumors which would have to be ligatured, or in view of the shattered state of the system produced by excessive hemorrhage or other morbid conditions. Indeed, in the last series of cases this morbid condition has been most aggravated, and not without anxiety have I determined to deal with them. I will speak about hemorrhage connected with the operation by and by, but I may here mention that the anæmia and reduced condition produced by long-continued bleeding is that which is so frequently met with in these cases, especially in ladies. And it is always a source of anxiety, for we all know what a tendency there is for pyæmia to follow a surgical operation when the blood is in the state mentioned. And I may now call to mind a case of a lady sent to me by Dr. Frank from Cannes. This poor lady was like dirty marble, she had suffered so terribly from hemorrhage; and she had also some chest symptoms, and had been told that she must on no account have the bleeding from the rectum stopped. Fortunately she saw Dr. Frank, who begged her to have my opinion. I could not find any active disease in the chest, although she had some spitting of blood, and I

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at once recommended the operation. Influenced, however, by the opinion already given, she would not consent until she had been seen by Dr. Peacock, and subsequently by Mr. Mac Cormack. Both these gentlemen agreed with me, and I operated, taking great care that I should not lose any blood at the time or afterwards. She made an excellent recovery, and some months afterwards my patient wrote to me saying she had got quite strong, and only expressed her regret she had not been operated on sooner. About the same time a very similar case of a lady who had gone through the most trying bodily and mental ordeals was sent to me by Dr. Fayrer. She also was terribly reduced by hemorrhage and its sequelæ, but went through the operation as well as the other, with excellent results. These bad cases are those best suited for the treatment by the clamp and cautery, for the hemorrhage is at once arrested, and the complete sealing up of the vessels produced by the hot iron is, in my opinion, the very best safeguard against pyæmia we can have.

Now I have spoken of pyæmia, I am happy to state, as before, that I have not met with a case after this series of operations; at least, fortunately, I have not been able to verify it as such. But in November last I was very anxious about the condition of a distinguished member of our profession, who, somewhat like Dr. Frank's patient, had long suffered from severe hemorrhoids and chest symptoms, and had been advised not to submit to any operation. Wearied at last by his complaint, he submitted. The operation was a severe one, and was followed, as is most unusual, by much constitutional disturbance, great depression, quick pulse, anxious countenance, and unhealthy discharge from the wound. For some days I was anxious about him, and I thought I was going to have, what I had never seen after this operation, a case of pyæmia. Very careful attention to his nourishment, however, the use of opiates, and washing out the bowel with warm water, gradually removed the symptoms, and I had the gratification of seeing my patient, who is an ornament to our profession, entirely recover, having been immensely benefitted by the operation.

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I have before stated, and I think so now, that pyæmia after the use of the cautery is most unlikely to occur; it is odd, however, that I have not met with any cases, for it is often necessary to make extensive wounds in the integument, to which the cautery of course is not applied.

Erysipelas is the next complication of which I must speak. In the 300 cases I had not one instance; but, curiously enough, in the last one hundred I have had two—at least one of the cases was decidedly a well-marked instance of the disease, spread over the whole of the buttocks and back, and nearly killed my patient. I may mention, however, that he had been terribly reduced by his disease, consisting of a huge prolapsus, and that I had to make extensive incisions for removing external tumors. Erysipelas was, moreover, very rife in my practice at this period. At this very time, and in the same neighborhood, another gentleman got rigors, fever, and a large abscess in the buttock, from which he recovered, although he was seventy-eight years old. I believe I took the erysipelas from my other patient to this. It has been a matter of surprise and congratulation to myself that I have not much more frequently met with erysipelas after this operation. I believe that the immunity is due in a great measure to the action of the cautery—an explanation similar to what holds good in instances of burns; however extensive these are, it is a comparatively rare thing to find erysipelas attack such a wound.

I come now to the consideration of hemorrhage—the most important matter in connection with the operation of the clamp and cautery. Important in two senses: first, because it is in reality the only objection to the operation; and, second, it is the result against which the surgeon has most to guard, and unless he takes very great care it is an occurrence very likely to take place. I find, moreover, from what has been written, and from conversations with my professional brethren, that surgeons dread the performance of the operation from fear of this taking place. But I have no hesitation in saying that the bleeding which is most likely to be serious—viz., that which may take place immediately after the operation—ought not to

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occur, and that if it does happen it is either from the fault of the operator or from the use of defective instruments or an inefficient use of the cautery. As to my own results, I may state that in the whole of my 400 cases, which have included many of the severest kind and of huge size, I have never met with bleeding sufficient to necessitate plugging of the rectum; and not one of the house-surgeons of King's College Hospital have ever had to resort to that measure. In fact, I have been astonished that a case has never occurred to me where this measure has been needful, as, especially in hospital cases, I have frequently been very sparing with the cautery, and have become emboldened by success from paying as much attention as I ought to prevent its occurrence. I have met with eight cases in which bleeding, either immediately on the operation or that which may be termed secondary hemorrhage, has taken place to such an extent as to demand very active measures short of plugging the rectum; and, curiously enough, at least six of these have occurred in my last series. I account for this —and glad I am, in one respect, to be able to say this—from my previous immunity causing me to take less precautions than I should. This little salutary experience, which I will relate, has made me doubly careful, and I do not think that my future results will show any similar mishaps.

The first case occurred in the person of a young woman in most miserable health, who had suffered terribly from hemorrhage, and came into the hospital with severe hemorrhoids. I performed the operation with the clamp and cautery. A few days after she got pain in the pelvic region, with constitutional disturbance, and the action of the bowels was followed by smart bleeding, and it recurred on two occasions. It was arrested on each occasion by the injection of iced water, and she get quite well. I cannot take any blame to myself in this instance. Either some vessel must have escaped the action of the cautery, or the blood was in such an impoverished state that there could not have been coagulating power enough to close thoroughly the vessels. I have operated on many such cases, however, and have not had any bleeding; in fact, it is

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in such cases as this that I believe we find the special advantages of the cautery. I once saw, in a similar case, where ligature was employed, nearly fatal secondary hemorrhage ensue after the separation of the threads.

The second case occurred in a hospital patient, a man. Smart bleeding occurred after the action of the bowels, which, however, was stopped by the injection of iced water. In hospital cases I am not so particular in applying the cautery, as I know there is assistance handy if bleeding should occur. I think it very probable I did not cauterise sufficiently here. Both these cases were examples of secondary hemorrhage proper, which is very rare indeed.

Sometimes a good deal of blood is passed on the first action of the bowels. The patient gets alarmed, and I am sent for; but on examination it is found that the greater part of this evacuation consists of dark coagulated blood, which had evidently slowly escaped into the bowel after the operation, and had remained there until the action took place. The third and fourth cases were of this description. In the one the bleeding ceased spontaneously; but in the other some arterial blood was poured out, and my assistant, who was called to the case in my absence, was obliged to pass a large speculum into the bowel, screw it up, and allow it to remain until I arrived. This answered most effectually. Now in both these cases I take blame to myself. In each there was a mass of internal hemorrhoids, which I clamped and cauterised in the ordinary manner; but, in addition, there was a large mass of external growths, covered partly by mucous membrane. I removed them with the scissors, but did not apply the cautery to the bleeding surface, as I have done since in instances where the muco-cutaneous growths, as I would term them, are very large. When the cut parts are returned after the operation, of course the wounds which were external become converted, as it were, into internal, and vessels which have been divided and have not been cauterised are very liable to bleed. Many years ago I saw a nearly fatal case of hemorrhage from this cause.

The fifth case was an instance of bleeding coming on imme-

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diately after the operation, and, excepting the last case I shall mention—which, however, is not exactly similar,—it is the only instance of the kind I have met with, although I have been constantly expecting it, and have wondered at its non-occurrence. I operated on a gentleman for large internal hemorrhoids. In clamping the largest tumor, and after dividing it and cauterising, a portion of the cut pedicle slipped away, and on unscrewing the instrument I noticed a vessel bleeding freely; it retracted, and apparently ceased to bleed. I finished the operation, and returned the parts. In about ten minutes, just as my assistants and myself were about to take our departure, the patient suddenly called out that his bowels were about to act; and immediately a large gush of blood took place, making him very faint. I at once introduced a large silvered glass speculum into the rectum, when another large gush of blood took place, and the bleeding continued for some moments, but by pressing the speculum well in I stopped it very quickly. The speculum was retained for about a quarter of an hour, and the bleeding did not recur. This might have been a serious case if I had left the house; and doubtless I was very blamable, in the first place, for allowing a portion of the pedicle to slip, and, in the next place, for not applying the clamp again and cauterising the vessel, which of course had not been touched at all by the hot iron.

The sixth and last case was one of a peculiar character. It occurred last July, in the person of a gentleman who suffered severely from internal hæmorrhoids; one was a large solid growth, more like a polypus, and having a thick solid pedicle. Before putting on the clamp I made a free incision around its circumference, and in doing so I wounded a large vessel; it spouted forth its contents over me, and then retracted, and, as I supposed, ceased to bleed. I embraced the tumor with a large clamp, inserting the blades into the cut surface, and removed the growth, freely cauterising the pedicle. In about an hour the patient felt very faint, and was obliged to resort to measures to relieve this; shortly afterwards, however, this condition passed away, and he felt pretty well until about

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forty-eight hours after the operation, when he had a strong desire to evacuate the bowels, and he passed a large quantity of coagulated blood. He made a very quick recovery. Now in this case there was a very narrow chance of the patient having a serious hemorrhage, and I was much to blame; for there can be no doubt that the large vessel which I had divided, and which had apparently ceased bleeding, burst out afresh on the completion of the operation, but was arrested by two causes—namely, the fainting, and the coagulating of the blood acting as a plug. I ought not to have trusted to the powers of nature to arrest bleeding from so large a vessel, but should have drawn the part down and have clamped and cauterised that as well as rest of the pedicle.

It is a somewhat curious circumstance that in the majority of the cases where bleeding occurred it happened in the last series of operations, and I have no doubt is entirely explained by the fact that repeated operations at an earlier period of my practice without any hemorrhage occurring had made me bold and somewhat careless; for when I first began this operation I had a constant dread of hemorrhage, and used to apply the cautery so freely that bleeding could not take place. I have, however, since the occurrence of the cases I have detailed, returned to my former method of free cauterisation, and I do not believe I shall get any further cases of bleeding.

One other point in reference to the result of this operation, about which I have often been questioned, is as to the liability to the occurrence of stricture. My experience shows that the stricture is not likely to occur from clamping and cauterising mucous membrane, but it is just as likely to occur after this operation as after any other operation when the skin is too freely dealt with. I have had three cases where, from this cause, cicatrisation of the skin caused a contraction of the anus; and hence I am extremely careful about the removal of the skin, and only adopt this measure where there is abundance of this tissue, or where, in consequence of great weakening of the sphincter, it is necessary to produce firm cicatrisa-

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tion. If, however, I am obliged to remove skin at all freely, I always make a patient use a bougie for a few weeks.

In one instance only have I met with a case where a fistula resulted. In this case I had not the charge of the after-treatment, and therefore do not hold myself responsible for the result.—*The London Lancet.*

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Extracts from Home and Foreign Journals.

SURGICAL.

AMPUTATIONS IN SCROFULOUS SUBJECTS.

A case related at a recent meeting of the Société de Chirurgie (*Gazette des Hôpitaux*, June 19,) in which a scrofulous child exhibited remarkable resistance to several successive operations, led M. Verneuil to protest against the illusions that exist as to the innocuity of operations in scrofulous subjects, and especially operations performed on bones. As long back as 1845 he had been struck by examining in the hospitals the results of the partial extirpations of the bones of the hands and feet in scrofulous subjects. The immediate results are very favorable, erysipelas being very mild in these subjects, and pyæmia rare; and few are lost by acute traumatic accidents. The wounds are very fine, granulating abundantly, indeed, too abundantly; but the cicatrization is defective. When the patient attempts to use his limb, the disease re-appears, either at the same spot, in other joints, or in some of the viscera. The amputation wound heals up, but the patient dies with albumenuria, general œdema, fatty degeneration of the liver, or tubercle.

An English author, who is a good observer, recommends that operations should be performed early in scrofulous subjects, before the development of morbid manifestations in the liver or kidney, and that in them amputations, not excisions, should be resorted to.

M. Marjolin partakes of M. Verneuil's scruples relative to the performance of operations in scrofulous children. Having

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been in charge of a children's hospital service for eighteen years, he has been able to follow the patients during long periods, as they re-entered the wards on several occasions. Inclined, as he was at first, to operate early, experience has taught him that these operations are premature before the constitutions of these little subjects have undergone modification, until when they should always be rejected, unless great urgency exists, which is rare. He has often seen infants who had been operated upon and cured, reënter and die of meningitis, pulmonary tubercle, or intestinal lesions.

The marine hospitals at Forgs and Berck constitute a valuable resource for the modification of the scrofulous diathesis, but they are insufficient for the demands made upon them, as there are from one hundred to two hundred children always waiting their turn of admission. Obliged to wait a year or eighteen months, when summoned, one-half of their number has ceased to exist. It is highly desirable that the number of beds should be increased, for country air constitutes the best treatment, and only the most immediate wants should be attended to in Paris.

M. Larrey, during his long experience in military hospitals, has been much struck with the great mortality attending amputations, principally in young subjects, and especially in the scrofulous. The examples of this which he had met with in the wards of Roux, Lisfranc, Dupuytren, and especially of Velpeau (once so prodigal in amputations, and so sparing of them in his later years), led him at an early period to react against this practice, and from 1839 he adopted, from the political language of the day, the designation *chirurgie conservatrice.*—*Medical and Surgical Reporter.*

CASE OF LONG-STANDING FISTULA IN ANO TREATED BY THE ELASTIC LIGATURE.

J. C. Ogilvie Will, M. D., Assistant Surgeon to the Aberdeen (Scotland) Royal Infirmary, writes to the *London Lancet* as follows:

Among other purposes for which an elastic ligature may be

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employed, Professor Dittell mentions that of division of the tissues for the cure of fistula in ano; and though I do not consider that, as a rule, its use should be preferred to the cutting operation, in certain exceptional cases I think it may prove of advantage, of which the following is a well-marked example. The history of this case is reduced from a written statement supplied by the patient, and it certainly appears a very extraordinary one:

W. P——, aged 51, states that, in the summer of 1854, he suffered from great weakness of his back and legs, and severe pain after being at stool. He was then treated for "spinal disease" by the actual cautery, blisters, and the application of leeches round the anus. After being subjected to this treatment for eight months, he attempted to resume his duties; but the pain after defecation continued, and even at other times he suffered so much uneasiness that frequently, after returning home at night, he applied leeches and poultices to relieve it.

He continued in much the same state till August, 1864, when matter was observed issuing from an opening by the side of the anus. This discharge went on for eighteen months, during which period he had no pain at stool, but a feeling of great weakness and pain in the small of his back.

During the next four years, "red swellings" appeared from time to time round the anus, but, with the aid of leeches and poultices, they were got rid of.

From 1870 to 1874 there was an occasional discharge of pus from a sinus, the flow sometimes continuing for three months, then stopping, and then again commencing; at times he could neither sit nor lie, but was obliged to walk about, which he found afforded greater relief than anything.

In September, 1874, the pain, while sitting, increased, especially at one point, on the inner side of the left buttock, where he could feel "something about the size of a pea, from which a hard cord extended to the anus." This swelling gradually increased, as did the pain; and he had again recourse to leeches and poultices, but, finding them of no avail, he applied to a medical man, who soon after requested me to see him.

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On examination, I found a small opening in the perineum on the left side of, and distant two inches from, the verge of the anus. On introducing a probe, it revealed an indurated, deeply-seated sinus, ending some little distance above the sphincter; but no internal opening could be detected. The lower part of the gut was separated from its surrounding structures to such an extent that the point of the probe could be swept round fully half its diameter.

Some days afterwards I completed the fistula by making an internal opening in the gut above the sphincter, and passed in a probe, armed with a solid elastic ligature (similar to that described by Sir Henry Thompson, in *The Lancet* for April, 1874,) which I then, after detaching from the probe, put tightly on the stretch and knotted securely. The ligature was considerably larger than the eye of a probe would admit, so I fastened them together by means of a thread of iron wire. At the moment when the ligature was being tied, the patient complained of considerable pain; but this soon passed off, and by the use of morphia suppositories he was kept quiet and comfortable. A pad of lint, coated with an ointment containing salicylic acid, was applied, and retained by a T bandage.

The ligature came away on the eighth day of the operation, and left a broad but healthy granulating surface, which gradually healed. The bowels were moved some days before the separation of the ligature, but its presence did not occasion any inconvenience.

In this case, on account of the length and depth of the fistula, considerable hemorrhage would, in all probability, have followed the use of the knife; moreover, the patient was weak from long suffering, of extremely sensitive and nervous temperament, the subject of heart-disease, and much averse to a cutting operation; therefore I think it was a peculiarly suitable case for the employment of the elastic ligature, as not one drop of blood was lost during the entire proceeding, and the shock of the operation was much less than it would have been had division by a cutting instrument been the mode adopted.

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MEDICAL.

MALIGNANT ANTHRAX.

Dr. Raimbert, of Chateaudun, recently laid before the Académie de Médécine, a case of what he considers malignant anthrax, successfully treated in a man by means of subcutaneous injections, seven in all, composed of eight drops in each injection of an iodized solution of iodine (*iode ioduré*), in the proportion of one drop of the solution in four thousand of water, afterward increased to fifteen drops, one drop in five hundred of vehicle.—*Medical and Surgical Reporter.*

OZŒNA.

A cure of this disease is reported in a case in which the nitrate of silver and the permanganate of potash had been resorted to in vain. The successful means consisted in frequent injections of the chlorate of potash, in the proportion of one part of the chlorate of potash in six parts of water. The cure proved permanent.—*Ibid.*

URTICARIA.

A French physician, himself a subject of this disease, being seized with severe urticaria, had the happy idea of bathing the feet and legs in hot water well dosed with mustard. Hardly had he dipped his extremities in the bucket, when, vastly to his satisfaction, every discomfort disappeared.—*Ibid.*

A FRENCH VIEW OF GERMAN SCIENCE.

An amusing example of the manner in which (in marked contrast with the behavior of some of their *confrères*) many French medical writers import the national distrust of the Germans in political affairs into the domain of science is to be found in the current number of the *Revue de Therapeutique*, in which the writer, after an allusion to the real causes of the increased mortality among the French wounded during the

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last war over that of their opponents, passes on to laugh at the devotion of German *savants* to minute microscopical research. The anonymous contributor points to the discovery of bacteria and micrococci in the blood of specific fevers as an example of this microscopical zeal, which, he says, led the Germans to create the etiology of "microzoitics," and to cultivate a "bacteticidal" therapeutics; and then he passes on to show how all these "lucubrations of the laboratory" have been rudely dispelled by the results of experiments showing that bacteria are the products, and not the consequences, of the morbid processes; and he avers that it is certain that "our learned *confrères* pervert the use of an instrument which has hitherto done nothing (*sic*) to advance practical medicine; more than once—*e. g.*, as regards bacteria—it has led into error." We hardly think, however, that impartial readers are likely to be convinced of the inutility of microscopical research, or of the worthlessness of the able researches of German observers, by these sweeping assertions of an anonymous French writer.—*London Lancet.*

THRUSH.

Dr. Girard, of Marseilles, earnestly urges the importance of cleanliness, air, exercise, food, and suitable clothing, in the treatment of thrush. Locally he applies, three or four times a day, with a camel's-hair pencil—

℞—Alum..... grammes v.
Glycerine ..... grammes xxx.

Otherwise—

℞—Borax ..... grammes xx.
Glycerine ..... grammes xxx.

ON AN IMPERFECTLY RECOGNIZED COMBINATION OF SPINAL SYMPTOMS.

Dr. Erb, of Heidelberg (*Berliner Klinische Wochenschrift*, June 28, 1875,) has met with about a dozen cases of affection of the spinal cord, in which he considers that the symptoms were sufficiently distinct and well marked to justify their se-

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paration from other forms of spinal paralysis, such as myelitis, ataxy, tabes dorsalis, etc. The clinical evidence of distinctness, he adds, is clear, constant, and well marked, although as yet it is not confirmed by *post-mortem* examination. The cases described by Dr. Erb exhibit a malady slow in progress, not tending to death, but an essentially chronic form of diseases, extremely gradual in its development. It seldom begins with abnormal sensation, but almost always commences with impairment of the motor functions, especially of the lower limbs, as shown in the uncertainty of gait and tendency to falling. Frequently at the outset spasmodic action and cramps of single groups of muscles are observed. The disease being progressive, the patient after months or years presents a peculiar appearance from the strangeness of his gait, and later still becomes more or less paralyzed and unable to stand or walk. The staggering gait reminds one of ataxy, but closer observation detects the difference. The patient drags the limbs after him, his feet appear to adhere to the ground, the toes catch upon every uneveness of the ground, and are dragged along with a shuffling noise. Every step is performed by a distinct heaving effort of the body, which acquires a tendency to fall forward. This is caused by contraction of the muscles of the calves, by which the toes are bent downwards. The knees are bent forward, as also the whole body inclines forwards. In the recumbent posture, movements of the body are at first not much impeded, but at a later period become difficult and painful. Standing is possible, either on one foot, or with the feet close together. Closing the eyes does not cause giddiness or staggering. Muscular contractions ultimately cause fixed positions of the limbs. The muscles continue to be well nourished, and retain their normal electro-excitabilities. It frequently occurs that the muscles of the trunk become feeble, so that it is with difficulty that the erect posture can be maintained. The upper extremities seldom become affected. There is seldom any impairment of the sensibility or of the muscular sense. In only one case was there slight cutaneous hyperæsthesia. A very marked reflex susceptibility is observed

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in many of the tendons, *e. g.* the ligamentum patellæ, the tendo Achillis, the abductors, the biceps femoris, the tibialis anticus and posticus. The reflex property of tendons, the author states that he has formerly described, in conjunction with Professor Westphal. The vaso-motor functions are not interrupted, except that in a few cases there is coldness and blueness of the extremities. The cerebral functions are also unimpaired. The general health is but slightly interfered with. The progress of most of these cases has been a gradual increasing loss of power in the lower limbs, until the patient has become bed-ridden.

These cases are compared differentially with other forms of spinal disease by Dr. Erb, who, failing an opportunity of *post-mortem* examination, finds it very difficult to localize the affection. The pathological condition which the author regards as nearest to that under consideration, is that of sclerosis of the lateral columns of the spinal cord, as described by Charcot. Their prognosis is not unfavorable, indeed the author has seen several cases that have been greatly benefitted by galvanism.—*London Medical Record*, Aug. 16, 1875.

TINCTURE OF EUCALYPTUS IN GANGRENE OF THE LUNGS.

In an elaborate memoir upon gangrene of the lungs, read recently by M. Bucquoy, at the Paris Hospital Medical Society (*Bulletin de Thérapeutique*, August 15,) he stated that his employment of eucalyptus, as a general rule, has not been attended with the success he had anticipated from what has been said of its properties. In the various bronchial affections he has not found it more useful than other balsamic preparations, and much less so than antimonials. He will not, therefore, be accused of partiality for it in recommending this remedy for the only affection in which he has found it yielding excellent results—gangrene of the lungs. In this disease it has surpassed all other substances which he has employed for removing the horrible fetor characterizing it. During the five years he has been at the Cochin he has seen at least two or three cases a year, and in five of these cases he attributes their cure,

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in a great part, to the action of the eucalyptus; and in cases in which the disease has terminated fatally, it has been very useful in removing the fetor when carbolic acid has failed to do so, while the violence and tenacity of the cough have been much modified.—*Medical Times and Gazette*, August 28, 1875.

REMARKS ON WHOOPING-COUGH AND ITS TREATMENT WITH CARBOLIC ACID VAPOR.

Robt. S. Lee, M. D., of London, directed attention to the very slight variation in the annual mortality from whooping-cough, to its widespread geographical distribution, and to the results of the various kinds of treatment. The conclusions which he deduced were the results of observation of six hundred cases, and the most important remarks were connected with the rise and fall of the disease at the first or second quarter of the year, and the frequency with which the disease was not diagnosed on account of the absence of the laryngeal spasm or whoop. The use of carbolic acid was recommended, as proving more satisfactory than any other kind of remedy; and the method of administering it in the form of vapor, by means of the steam-draft inhaler, was explained. A solution of one part of carbolic acid in ten of water was kept as a standard for mixture, in the proportion of two drachms to four ounces of water. This was introduced into the inhaler, and every four hours its vapor was inspired for ten minutes or a quarter of an hour.—*Medical and Surgical Reporter.*

ON THE PREVENTION AND MANAGEMENT OF MISCARRIAGES.

At a late meeting of the British Medical Association, Arthur W. Edis, M. D., of London, made a brief allusion to the mortality occasioned by miscarriages, the life of the fœtus being invariably sacrificed and the mother's life often jeopardized; and not only this, but the fecundity of the female was often destroyed, from the effects of uterine disorder following a miscarriage, to say nothing of the distress and suffering often occasioned. In a series of 2,000 cases observed by the author,

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there were no fewer than 1,147 miscarriages compared with 4,588 children born at full time. Miscarriages were far too lightly esteemed, both by the public at large as well as by practitioners. Patients with well marked flexion of uterus, constitutional syphilis, chronic metritis, and numberless other affections, were allowed to go on aborting without sufficient pains being taken to prevent a recurrence. The prevention of miscarriages depended entirely upon proper measures being employed to avoid the contingency of a recurrence of the cause or combination of causes that induced the expulsion of the ovum in the first instance. To say that a patient had acquired the "habit of aborting" was merely asserting our ignorance of the cause, and expressing in other terms the fact that the woman aborted because she aborted. As regards the management of miscarriages, the necessity of a vaginal examination was strongly insisted on. The influence of ergot in the early stage, in arresting threatened miscarriages, was favorably alluded to, and the employment of carbolic acid injections where any portion of the products of conception were retained was urgently recommended. The author concluded by urging a more careful study of the subject; miscarriages being frequently the starting point of a long course of uterine distress—dysmenorrhœa, sterility, etc.—*Ibid.*

ON DYSMENORRHŒA.

Mrs. E. Garrett Anderson, M. D., discussed the following questions at the late meeting of the British Medical Society:

1. How far is the mechanical theory of dysmenorrhœa supported by facts?

2. What is the relation between mechanical or obstructive dysmenorrhœa and the so-called neuralgic, congestive, and rheumatic forms of the complaint?

3. To what extent ought the mechanical theory, if we accept it, guide our treatment?

With regard to the first question, Mrs. Garrett Anderson agreed with Dr. Marion Sims and Dr. Barnes, that the essential cause of dysmenorrhœa was retention of the uterine secre-

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tion. This view was supported by the curative influence of parturition. The author differed, however, from Dr. Sims when he denied the existence of constitutional dysmenorrhœa; for in a large number of cases the retention might depend on a constitutional condition. The anæmic, congestive, and rheumatic forms of dysmenorrhœa were commented on; also that dependent on uterine flexion. Mrs. Garrett Anderson did not believe in neuralgic dysmenorrhœa, as the term was commonly understood. The form thus described might depend on obstruction, or an abrasion of the os, with endometritis of the cervix or fundus. Cases of ovarian origin were believed not to be common in early woman, not to be often primary. "Intermenstrual" dysmenorrhœa was not dysmenorrhœa at all, and was probably due to ovarian congestion. In regard to the treatment, Mrs. Garrett Anderson pointed out that there were facts which seem to indicate that, in accepting the mechanical theory of dysmenorrhœa, it is not necessary to adopt in the first instance, and in most cases, a mechanical line of treatment. Various constitutional conditions frequently gave rise to obstructive dysmenorrhœa, which could often be removed by constitutional measures.—*Ibid.*

NEURALGIC DYSMENORRHŒA.

Charles R. Drysdale, M. D., read a paper before the British Medical Society on this subject, in which the author expressed the thought that a salutary revolution was now setting in against the surgical doctrines held by Dr. Marion Sims and others upon dysmenorrhœa and its causes. Dr. Drysdale very rarely, indeed, witnessed any case where he had found any service to arise from operations on the uterus; whilst he had seen some cases of pelvic abscess and pelvic peritonitis occur from such interference. He was lately consulted by a patient, single, aged thirty-two, who had suffered since the age of sixteen from dysmenorrhœa, and who, on consulting two eminent specialists, was advised by the one to have recourse to incision of the cervix, and by the other to wear a pessary. In this case, the uterine sound passed its normal direction with-

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out difficulty, and the patient had no leucorrhœa nor prolapse of the organ, which was quite normal in size. There was no ulceration of the os uteri, although another eminent specialist had considered this as the cause of her dysmenorrhœa. The author held that there was still too great a tendency to expect to find an evident physical cause for all painful menstruation. Spasm and neuralgia were quite sufficient to account for the vast majority of cases. Membranous shreds, also, were frequent causes of obstruction to the monthly flow. An illustrative case was recorded. The rational treatment of dysmenorrhœa commencing at an early period, consisted not in the use of pessaries, or of incision of the uterus, surely; but in the use of cold baths in the morning, with short walks in the open air afterwards; in hot baths, a few days previously to the menstrual periods; and in palliative treatment of the paroxysms by means of antispasmodics at the epoch of pain. Marriage sometimes cured such cases at once; at other times, it was of no use.—*Ibid.*

QUININE IN SERPIGINOUS AND PHAGEDENIC ULCERS.

In the St. Thomas Hospital Reports Mr. Croft calls attention to the value of quinine in these forms of disease. In one case, in which full details are given, where serpiginous ulcers of syphilitic origin had long existed, iodide of potassium had been prescribed at various times in full doses. Mercurials had also been given internally, in the form of the biniodide. Calomel vapor baths and topical fumigation had severally been employed without effect. Twice fuming nitric acid was applied without benefit. At length quinine in eight-grain doses was combined with scruple doses of iodide of potassium, and from this time a remarkably rapid cure commenced. In twenty-eight days he was able to walk out of the hospital to go to a convalescent hospital. No relapse took place. The eight-grain doses caused singing in the ears about one week after he had commenced to take the medicine; but it was not discontinued on that account. Mr. Croft gives two remarkable cases of phagedenic ulceration, one of which was syphilitic and the

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other non-syphilitic, in which quinine proved extremely useful.—*Ibid.*

HÆMATINURIA.

This curious disease was the subject of notice by Dr. J. Warburton Begbie in a recent communication read before the Medico-Chirurgical Society of Edinburgh. One of the two cases related by Dr. Begbie was of considerable interest, both from an etiological and therapeutic point of view. The patient was a clerk aged twenty-five. The dark color of the urine appeared first in September, 1873. Up to this time he had always enjoyed good health. No reason is assigned for the appearance of hæmatinuria then. After a few weeks it disappeared, and reappeared in the autumn of 1874, after walking nine miles and being exposed to cold and damp. The urine was never dark before eleven in the morning, doubtless due to the warmth and rest of bed. Before the dark urine was passed there was invariably a sensation of cold and discomfort, but no rigor. The disease resisted gallic acid and large doses of quinine, given to the extent of producing unpleasant symptoms of chinchonism. After the failure of quinine, Dr. Begbie ordered twenty grains of chloride of ammonium, dissolved in water, three times a day. From this day no dark urine was passed. It is true that the weather also became milder. But on two occasions, when the medicine was intermitted, the disease returned. Dr. Begbie regards warmth as the most important remedial agent. Not the least interesting feature of these cases is the evidence they afford of the thermometric delicacy of the renal organs. The value of the chloride of ammonium must be tested by other cases. But its influence here seemed marked, and will justify further use of it in similar cases.—*London Lancet.*

EPITHELIUM OF THE ALVEOLI OF THE LUNGS.

Dr. E. Aufrecht describes the changes undergone by the epithelium of the alveoli of the lungs in broncho-pneumonia. He finds that near the focus of the disease the cells are much

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swollen, and have become opaque in consequence of fatty degeneration, and broken down, so that only fragments of them remain. In other places they have fallen away bodily, leaving a delicate network, which appears to be a modification of the cementing substance by which they are normally retained in position and connected together. This network can be readily separated from the alveoli, and can then be seen to be composed of extremely fine elastic fibres, which are but slightly acted on by acetic acid. The nodal points of the fibres exhibit nuclei. The appearances presented in disease have led him to examine the normal relations carefully, and he arrives at the conclusion that even in the perfectly healthy lung the alveoli are covered with a network of elastic fibres, containing nuclei in their nodal points, and the meshes of which contain the epithelial cells of the alveoli.—*Ibid.*

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Editorials, Reviews, Etc.

GLIOMA.

Our attention has lately been directed to a beautiful specimen of glioma removed by Prof. Briggs, and mounted for the microscope by Dr. Chas. S. Briggs. We laid down, some time ago, in connection with the histological description of a tumor, the characteristic elements of sarcomatous growths, and after witnessing some of the beautiful preparations of Prof. Virchow, we have had our position strengthened in regard to their classification.

That they always originate in connective tissue we have not the least doubt. They grow in two ways—by multiplication of their own elements, or by *central growth*, and by the invasion of their matrix, or *peripheral growth*. The latter, however, is the great characteristic of these tumors, though they frequently become encapsuled, and growth takes place within the capsule.

Of the different varieties of sarcomatous growth, there is none more interesting than the round-celled sarcoma, growing from the connective tissue of nerve. The neuro-glia, or cement, which binds the nervous elements together, since its discovery by Virchow, has been generally admitted to belong to the class of connective tissues, and is liable to take on pathological changes peculiar to this class of tissues.

For a time, a discussion arose as to whether this interstitial tissue possesses cellular elements or not. The Dorpat School published, after Virchow's discovery, a series of investigations

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to show that a great number of cells in the spinal marrow were set down as belonging to this connective tissue. Jacubowitsch utterly denied the occurrence of the cellular elements of connective tissue in any part of the brain or spinal cord, and has asserted that the interstitial tissue which, by him too, is regarded as connective tissue, is an altogether amorphous finely granulated or reticulated matter, which nowhere contains a single corpuscular element.

In regard to this point, we quote from one of Virchow's lectures as follows:

There can, according to my firm conviction, be no doubt but that the larger cells which pervade the posterior horns of the spinal marrow are nerve-cells; but, on the other hand, it must be maintained with equal positiveness, that, where neuro-glia is met with, it also contains a certain number of cellular elements. Immediately beneath the surface of the cerebral ventricles we commonly meet with spindle-shaped cells lying parallel to it, just like those which are found in other kinds of connective tissue; these become larger under certain circumstances, and, in oblique sections, often display themselves in the form of stellate cells.

A substance altogether similar in structure to that with which we have already become familiar in connective tissue—especially as far as its cells are concerned—is also found between the nerve-fibres of the cerebrum; only the cells are so soft and fragile, that generally nothing but nuclei can be perceived, scattered at certain intervals throughout the mass. On making a careful search, however, even in fresh (not artificially hardened) specimens, soft cellular bodies of a roundish or lenticular form can be detected, which possess finely granular contents and large granulated nuclei with nucleoli, and lie, certainly in no very great number, between the nervous elements. At certain spots, it has indeed been hitherto impossible to draw a well-defined boundary-line between the two tissues, and especially so at the surface of the cerebellum and cerebrum, between the granules which I have already described to you as connected with large ganglion-cells, and the nuclei of the connective tissue. Wherever the parts are seen severed from their connections, it is not easy to make the distinction, and a positive decision is only possible as long as the parts are viewed in their natural position.

Now it is certainly of considerable importance to know that in all nervous parts, in addition to the real nervous elements, a second tissue exists, which is allied to the large group of formations, which pervade the whole body, and with which we have in the previous lectures, become acquainted under the name of connective tissues. In considering the pathological or physiological conditions of the brain or spinal marrow, the first point is

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always to determine how far the tissue which is affected, attacked or irritated, is nervous in its nature, or merely an interstitial substance. We thus obtain, at the very outset, the important criterion for the interpretation of morbid processes, that the affections of the brain and spinal marrow may sometimes be rather interstitial, at others rather parenchymatous, and experience shows us that this very interstitial tissue of the brain and spinal marrow is one of the most frequent seats of morbid change, as for example, of fatty degeneration.

Within the neuro-glia run the vessels, which are therefore nearly everywhere separated from the nervous substance by a slender intervening layer, and are not in immediate contact with it. The neuro-glia extends in the peculiarly soft form, which it presents in the great nervous centres, and particularly in the brain, only to those parts which must be regarded as direct prolongations of the cerebral substance, namely, to the higher nerves of sense. The olfactory and auditory nerves also contain interstitial substance of the same character, whilst in all the rest, and even in the optic nerve itself, an increasing mass of a tougher tissue displays itself, which assumes quite the character of perineurium.

Perineurium and neuro-glia are therefore equivalent parts, the only difference being that the one is of a soft, medullary, fragile nature, whilst the other is akin to the well-known fibrous tissues. The neurilemma stands in the same relation to the perineurium that the membranes of the brain and spinal cord do to the neuro-glia.

So far as our own observations go, nothing is to be seen in the tissues immediately surrounding the nerve-fibres, as well as in the neuro-glia, existing in the gray substance of the cord, but a peculiar modified connective tissue, whose semi-solid fundamental substance is finely granulated and fibrillated, or, according to Walther's observations on the frozen living brain which, as Gerlach of Erlangen has suggested, need confirmation, only a structureless tissue. According to this view, the finely-granulate state of the neuro-glia must be looked upon as produced by the prolonged action of hardening solutions. Gerlach, to whom, in this connection, we have just referred, very correctly states that this finely granular or primitively structureless fundamental substance, as is not unfrequently the case in ordinary fibrillar connective tissue, (serous membranes, for example,) is traversed in all directions by a network of delicate elastic fibres, containing cellular elements, connective tissue, and corpuscles in various stages of development.

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As regards the origin of the latter elements, Henle and Merkel, starting from the well-known observations of Cohnheim, on suppuration, have advanced an interesting hypothesis, to the effect that these cellular elements are nothing but exuded white blood corpuscles.

Here, then, we have the introduction of a factor in the problem, which enables us to explain many of the abnormal or pathological changes which the neuro-glia manifests. These migrated blood corpuscles are capable of producing a great amount of mischief, here as elsewhere in the system. They still preserve their vitality after migration, and are capable of setting up abnormal conditions in the tissues within which they have become imbedded. That they are prime movers in the formation of glioma we have not the least doubt.

We conclude these general remarks with those of Rindfleisch on this point, which may not be at the command of all of our readers:

Glioma formerly went under the designation of sarcoma, and at the present day I would not hesitate to continue the old name, if the influences of locality and of the mother tissue did not make itself felt just in these sarcomas in so prominent a manner, that a particular name appears, in fact, justifiable. In order to characterize at once one of the most striking peculiarities of glioma, we might rather call the glioma a gliomatous degeneration of individual parts of the brain. If we have a glioma before us, we can at least quite accurately say, that this or that section of the brain, for example, the optic thalamus, the corpus striatum, the anterior part of the centre of Vieussens, or a large portion of the cerebral cortex, has been converted into the glioma.

The forms of these parts have been altogether and entirely maintained, although nothing of the histological peculiarities has been maintained, rather everything has been substituted by the glioma-tissue. Simple round, perhaps, knotted gliomas do not occur; moreover, it is often very difficult to establish the form of the glioma, because, upon the one hand, it can be distinguished by its consistence, and color, almost not at all from the consistence and color of the parts which it substituted, upon the other hand, because it passes over very gradually into the healthy neighborhood. The first of these two points is straightway enigmatical to me. I have a glioma, which occupies the left optic thalamus and corpus striatum, which consists throughout of genuine glioma-tissue (round cells, arranged in bundles and fibre-lines), and which microscopically still only makes the impression of a genuine hypertrophy of the optic thalamus and corpus striatum. Gray and

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white substance recur in the usual alternation, and still I cannot find nerve-fibres either with, nor without the substance of Schwann, nor ganglion-cells, &c.

In a glioma, also of the cerebral cortex of the right anterior lobe, which exists in the collection at Zürich, the conformity of the color of the diseased and the healthy parts is striking, although the former consists entirely of small spindle and round cells.

We have here only the one point of support, that the growth of the glioma depends essentially upon infiltration, and that consequently the normal structure gives the proportions also for the pathological The vessels appear for the greater part to be maintained. Hence the tumor, if we examine it upon a section, gives quite the impression of a sarcoma. Only that the cells are in general very small, and similar to the common granules of the neuro-glia, which would be a curiosity at least, for an ordinary round or spindle-celled sarcoma.

Moreover, the glioma and the sarcoma are very nearly related; in certain gliomas we find places, which are larger celled than usual; by way of exception I have even met with spindle-cells of 0.4 mm. in length and of corresponding thickness (glioma sarcomatodes). The relationship, however, is expressed especially also in the varieties. Virchow has taught us of a glioma myxomatodes, which varies in all shades up to a pure myxoma. I have myself several times had the opportunity of investigating the hemorrhagic glioma. It is characterized by comparatively wide blood-vessels and the tendency to effusions of blood, which constantly occur into the centre of the tumor. The bulk of the effused blood may be so great, that the case, not only clinically, but at the first glance, also anatomically, presents itself as an apoplexia sanguinea. The tumor is often crushed, excepting a narrow border, which surrounds the pool of blood; still, this naturally suffices to betray to us the original nature of the affection.

The gliomas belong to the slowest growing tumors, therefore, occasionally attain a considerable size. That they, at least in part, may also decompose, is proven by the frequent occurrence of fatty metamorphosed portions in the interior of the tumor, though it would be more correct in these decompositions to think less of a possible cure than of the danger of an apoplexy, which threatens, when the resorption of the fatty detritus brings about a diminution of pressure and a disburdening of the vessels in the interior. T. O. S.

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DENTISTRY AS A PROFESSION.

THERE is nothing in the course of American development, during the last century, which is deserving of more consideration than the growth, among us, of the science and art of dentistry. Cradled in the genius of American enterprise, it has become a power and a pride among us. The ethics of dentistry, as set forth in its organized bodies, are as rigidly construed as those of the medical profession, of which it is naturally part and parcel. The efforts to combine the chairs of dental schools under the regime of the University medical course, has met with much favor, and done much to elevate the standard of dentistry. This, however, is not always practicable, and in some instances, a correlation can be established as in the Philadelphia Dental College, which is even more effective than the absorption plan, while it avoids the odium and the anomaly of complete isolation.

The American schools of dentistry are conceded to be in advance of those of the old world, where dentistry is conducted almost entirely upon the barber-shop principle. And yet there is still among us of the South a good deal of dental quackery, which should be eradicated.

Like the doctor, the dentist should be forced to go through the drill of the College course, and bring off testimonials of his proficiency. We do not speak without warrant when we say that, in the State of Tennessee, where dentistry has had no small degree of prominence given to it by a few of the best members of the profession, a comparatively small number of the practitioners are regular graduates of colleges. In Nashville, we know of but four who have attended the full college course, and bear testimonials to that effect. Our dental brethren should look to this. "These things ought not so to be."

T. O. S.

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THE EVILS OF NOSOLOGICAL NOMENCLATURE.

THERE is, perhaps, no greater source of error in the practice of medicine than the nomenclature of disease. Whether conscious of the tendency or not, it is very certain that the great body of the profession seek first to name a disease in order to shape the course of treatment.

Now it does seem strange that men with even a superficial smattering of physiology and anatomy, could ever be deluded into the idea that, for the especial convenience of the doctor, diseases should arrange themselves, in all cases, in accordance with the classifications of the book-makers. When a new disease comes out, however, there seems to be as much fuss about what to call it as the women of the house make about naming a new baby. Once named and pigeon-holed, there is no trouble thereafter in regard to its future demonstrations and manifestations. And is it not well known that no two persons ever suffered in precisely the same manner from the same disease? Indeed, we may go farther: under different conditions of the organism no individual has suffered under precisely the same pathological symptoms.

The livery of disease is as changeable as are the external conditions in which it develops, and by which it is shaped and modified, even to the extent of obliterating its marks of identification and destroying its permanency of type.

The late developments in the line of natural selection have demonstrated the almost unlimited power of external conditions in determining the forms of life, even when bound up in the permanence of species. How, then, can we expect disease to remain fixed amid the evolving changes of its surroundings? Who that has seen the diphtheria of this country ten years ago could be able to identify it with that virulent form

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which rages amongst us to-day? The microscope reveals to us the fact that the histological characteristics are entirely different, thus demanding a thorough revolution in the order of its classification. What is true of this disease applies with equal force to every other in the whole range of nosology.

Are we, then, to work entirely and for ever in the dark? Not at all. The solution of the problem is a simple one. Every case must stand upon its own conditions, and in the determination of its pathological relations there must be a simple reference to the points of departure from its physiological expression. Here experience does but little for the doctor. What he wants is *knowledge*. Take anatomy, physiology, and materia medica, and throw the old procrustean bed of nomenclature to the owls and to the bats! T. O. S.

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Original Communications.

MALARIA: ITS NATURE AND MODE OF SPREAD.*

BY BENJ. H. RIGGS, M. D., SELMA, ALA.

I know of no subject that is of such profound interest to the physician, or that more nearly concerns him in every day practice and experience, than that of malaria—or, as it is sometimes called, "Marsh Miasm"; abounding in all lands, and to some extent in all latitudes; finding its victims in every direction; now manifesting itself in a candid form, and again intercurrent with some other disease and more or less masking

* Read before the Medical Association of the State of Alabama, and copied from the "Transactions" of its Twenty-Eighth Annual Session.

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its features; and again assuming the shape of another malady, and hiding itself completely behind it, and only to be routed when specially assailed. It is all-pervading; "the viewless winds bear it upon their wings; the evening and morning mists entangle it in their meshes, and the fragrant odors of the spring are treacherous with its poison." This invisible, imponderable, intangible, yet real, positive, and undoubted something has invoked the attention of medical philosophers from the earliest ages of this philosophy, for its effects have been seen by every physician who has observed. We are all familiar with it by its effects upon our patients and upon ourselves. The diseases of Alabama, more particularly those of the rich farming lands of Central Alabama, are at least one-half, if not a greater per centum, due directly to its influence. Concerning us all to this great degree, I have, on this occasion, accepted the duty of drawing attention to the nature of the malarial poison, by summing up the most popular and generally received views held concerning it. As I take it, there need be desired no better field for the study of malaria than this section of Alabama; the harvest is white for the garner; we need workers, skilled microscopists and attentive observers. So far as I am aware, notwithstanding the exceeding prevalence of this substance in our midst, there has been no paper devoted exclusively to this branch of the subject ever reported to our Association, except the paper by Dr. Jos. A. Graves, of Summerfield, Dallas County, in 1871, entitled "A Chemical Explanation of Malaria." Other States in the Union have gone into this work, and physicians in other States in the Union have achieved great reputation by their researches.

I propose merely to give to-day, in as brief form as is consistent with perspicuity, a statement of the present status of the subject of malaria among medical scientists. I do this for the double purpose of chronicling medical progress, and serving as a guide for those who may wish to study the subject further. I shall merely view it in the aspects of its modes of development and diffusion.

Malaria is an ancient designation that was originated before

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the days of chemical discrimination. It has about as much significance as Influenza—THE INFLUENCE. It is true, that malarious atmospheres of to-day are "bad air," but there is much bad air that is not malarious. This word has lost its etymological significance, but has to be retained along with much in our nosology that means one thing and denominates another. "Marsh Miasm," as will be shown further on, is also a bad name; for it proposes to particularize, and does so imperfectly or falsely; for malaria GROWS fatally and abundantly in lands that are apparently arid, desert wastes, as well as in the marshy districts. In different ages of the world many views have been held as to what constituted malaria. Many theories have been advanced in explanation of it; for a long time it was held to be some pestiferous gaseous emanation or combination of gases. Again, it has been thought by some to be due to electrical telluric influence, or to "an allotropic condition of atmospheric nitrogen in an electro-negative state." But in obedience to the general tendency of the professional mind of these times, the "germ theory" has been invoked in explanation of its phenomena; and to-day it is almost universally received and taught in colleges, text-books, and monographs, that, in the language of Niemeyer, "marsh miasm—malaria—must consist of low vegetable organisms, whose development is chiefly due to the putrefaction of vegetable substances. It is true these low organisms have not actually been observed. No one has seen 'malarial spores,' but the facts above mentioned, as well as many other causes, urge us to believe that the poison exhaled by marshes, as well as that given off by a patient with measles, is an organic living substance." (*Niemeyer's Text Book of Practical Medicine*, vol. ii., page 609.)

As I understand it, the above is a fair expression of the present state of the question among medical scientists. The organic germ theory of malaria had its birth-place in America; to Professor J. K. Mitchell belongs this honor. Its most prominent advocate was Dr. J. H. Salisbury, of Cleveland, Ohio; in 1866 he published an article in the "*American Journal of*

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Medical Sciences," in which he gave to the profession the result of his researches, evincing much industry and ingenious investigation, and in which he attributed malarial diseases to the poisonous emanations from a microscopic vegetable belonging to the Palmellæ.

Dr. Lebert says: "Before proceeding farther I may be permitted an etymological observation. Nægeli has named these minute plants *schizomycetes*, because they propagate by fission. The fact really is that the fission is found to be simply a cross-section in the rod-like bacteria and spirilla, and I have often observed it in my ovoid *panhislophyton* of the silk worm. On the contrary, the gemmation of the *micrococcus*, as has been observed in the *microsphere* of small-pox lymph, is rather a biscuit-like contraction, with subsequent separation. * * * * We are concerned here with the lowest vegetable forms, those which are recognized by their extreme minuteness, being, in fact, on the ultimate boundary of microscopic vision, and which are held by the best mycologists as incapable of becoming transformed into more highly organized fungi by cultivation. I include, therefore, the groups of globular, rod-like and spiral fungi (it seems to me as irrational to speak of globular bacteria as of globular rods) together under the name of *protomycetes*.

"Though our knowledge in this department is as yet very incomplete, still every one who is familiar with the results of the latest researches will agree with me, that a deep and intimate connection exists in a great number of cases, between the development of protomycetes in the human organism and infectious diseases. I believe also that it will probably happen in this case, as in the thousand-years' conflict over the theory of spontaneous generation, that the facts against the latter, and which correspond to the protomycetic theory, will win more and more victories in the domain of research, until the term *generatio spontanea* will be considered as synonymous with *generatio incognita*. Thus, possibly, may the facts of the germinal origin of infectious diseases supersede the hypothesis of their primitive origin. Still we must be cautious in bring-

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ing forward prematurely an exclusive theory in order to support a theory of uniformity.

"Salisbury's statements in regard to the influence of the minute palmella-like fungus have not thus far received scientific confirmation. For this reason the existence of malarial protomycetes can thus far only be accepted as an hypothesis, and it cannot yet be decided whether the air alone is the bearer of malarial infection, or whether, more probably, as I incline to believe, some fluid—it may be dew or mist, it may be drinking water—is the agent. * * * Here non-contagiousness alone is settled; all beyond is conjecture." (Ziemssen's Cyclopedia of the Practice of Medicine, pages 241 and 242.)

My attention was called during the past summer to an article in the April number of the *Virginia Medical Monthly*, which was an analysis of an article from the January number (1874) of the *Chicago Medical Journal*, entitled "On a Marsh Plant from the Mississippi River Ague Bottoms, supposed to be kindred to the Gemiasma of Salisbury; with a consideration of its Genetic Relations to Malarial Diseases. Read before the Chicago Society of Physicians and Surgeons, November 10, 1873. By John Bartlett, M. D., Chicago." I received a very kind letter from Dr. Bartlett in reply to one I wrote him, urging me to prosecute the investigation in his manner in the malarious suburbs of Selma. One July evening, my friend, Dr. Hudson, and myself, with a good lens, repaired to the ditches and small water courses in the vicinity, and made diligent search for some disease-producing germs; but, let the defect be where it might, we met with no success; but malaria was there in all probability, for my companion was seized within a few days with a malarious fever, which caused him to shake and shiver at intervals for many months. *Propter hoc aut post hoc* this is nevertheless a true record. Dr. Bartlett's article in the *Chicago Journal* reflects much credit upon him for the zeal, energy, and judgment displayed in his investigations, and does credit to his generosity of heart in that he gives willingly his friend, Safford, such credit as he might claim as a discoverer.

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Dr. B.'s first effort was made to ascertain for himself the correctness or fallaciousness of the views advanced by Dr. Salisbury before referred to, and the correctness also of the almost annihilating criticism of Dr. H. C. Wood on Dr. S.'s paper in 1868; in order to do this, he states "that in September, 1871, in company with Dr. J. P. Safford, he was induced to examine the slough margins in the lower river bottom opposite Keokuk, Iowa, (where the ague was epidemic) in search of the plant imperfectly described by Dr. Salisbury's paper, and a sod containing numerous plants was obtained by Dr. Safford. On comparing the specimens of plant with Dr. Salisbury's account, we could only conclude," writes Dr. B., "that the plant found was a variety of the gemiasma, differing from them in several particulars, chiefly perhaps, in respect to size; these were as large as rape seed."

By continuing their investigations they were impressed with the apparent relation of the occurrence of ague and malarious diseases with the presence of this plant, which Dr. B. calls Safford's plant, in honor of his friend. "According to Profs. Babcock and Munroe, Botanists, Chicago, it is the *Hydrograstrum* of Robenhorst, or the *Botrydium* of the Micrographic Dictionary." (Virginia Medical Monthly, April, 1874, page 20.)

In the Transactions of the Virginia Medical Association for 1874, on page 41, Dr. Wm. D. Harper, of Lynchburg, states that—"Having had a case of fever and ague, originating in Bedford county, near the Peaks of Otter, and this disease being exceedingly rare in that section, I concluded that the cause must be strictly local, and therefore determined to investigate with the view of finding Safford's Ague Plant." He found the plant, sure enough, but alas! for the integrity of the evidence as a support to Safford, he found it growing in the mountains, where malarious diseases were extremely rare, "in a valley in Bedford county, near the Peaks of Otter, after three heavy frosts, and where not a case of intermittent fever had originated for the past nine years." (*Virginia Medical Monthly*, December, 1874.)

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Notwithstanding the evident adoption by medical scientists of the organic germinal cause of malarious diseases, and notwithstanding the commendable researches of Drs. Salisbury and Bartlett and others in America, and Balestra, Lebert, Palli, Beale, and hosts of others in Europe, the attempt to attribute the spread of infectious diseases to fungi or algæ has not been successful. Salisbury's Palmella, Bartlett's Safford's Plant, or Balestra's Microphyte granule, are not yet demonstrated as constituting the essence of malaria. There is no doubt that organic matter exists in considerable quantity in the air of marshes. "Discovered by Vauquelin (1810 and 1811, in the air collected over the Languedoc marshes), by De Lisle, and again by Moscate (1818, in the air of a Lombardy rice field), and examined more recently by Boussingault (1829, 1839), Gizot (1859), and Becchi (1861), the organic matter seems to have much the same character always. * * * Dr. M. P. Balestra has described spores and sporangia of a little algoid plant in the air of Rome and its vicinity, and the same plant is found abundantly in the water of the marshes near Rome." (*Parkes' Practical Hygiene*, fourth edition, pages 106 and 107.)

Thus there is abundant encouragement for the prosecution of research in this direction; it seems that we are on the road to true success, but the coveted goal does not yet gladden the vision of the earnest investigator. The most important organic impurity of the air is malaria, and when a climate is regarded as unhealthy, it is generally meant that it is malarious. For many long years, and even now in most text books, it is taught that heat, moisture, and vegetable matter are necessary for the formation of malaria; I believe that later developments go to show that too much stress is laid upon vegetable decomposition as a producing factor. If the view now received with regard to spontaneous generation holds good with regard to the invisible but potential kingdoms beneath and around us, there is no such thing as spontaneous or self-generation; malarial diseases belonging to the infectious class, owe their existence to the effects of a specific poison operating on

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the human organism; this specific cause is a living, multiplying organic body (protomycete of Lebert) that moves upon the face of the earth and begets its progeny like any other creature; as the germinal cause of scarlet fever, measles, yellow fever, etc., has existed for my ages, never originating spontaneously, but spreading by its colonization of germs, as mildew, smut, rust, etc., never originates *sui sponte*, but is the offspring of its own parents; so the protomycete of malaria is not the product of decomposing vegetable matter, heat of 65° Fahr., and water, but is the child of its own parent, spreading according to the law of its kind. The NEST for its growth is composed of air, moisture, and some impurity of soil, and doubtless there are always present some vegetable matter in solution, and an isotherm of summer temperature. Stagnant ponds, covered with vegetable growths, and swamps, and marshes filled with vegetable debris, are not the homes of this poison necessarily, neither are they a prerequisite to its existence. If they remain at or about one level they cause no sickness. There is everywhere over the globe what is called ground-water; this subsoil or ground-water varies in different parts of the world in its distance from the surface, and varies in different seasons of the year, according to the rainfall. My observation leads me to confirm the ideas of Parkes in his work on Hygiene, and agree with the views of Dr. A. G. Tebault, of Princess Ann County, Virginia, advocated in his "Study of Malaria," in the September number, 1874, of the *Virginia Medical Monthly*. Dr. Parkes says, on page 307: "The rise and fall of the ground-water, by supplying the requisite degree of moisture, or on the contrary, by making soil too moist or too dry, evidently plays a large part in producing or controlling periodical outbreaks of paroxysmal fevers in the so-called malarious countries. The development of malaria may be connected either with rise or with fall of the ground-water."

Dr. Tebault says: "The conclusion at this stage is, that malaria requires for its propagation a permanent, not shifting soil, existing in a moist stagnant condition; such, indeed, as

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is suited to the growth of some sort of vegetation, however coarse or simple in structure, but dependent upon a supply of water by infiltration."

Aitken says, (page 465, *Science and Practice of Medicine*, vol., i Clymer): "But although it has been observed that absolute marshes do not always produce agues, and that agues are not always due to obvious marshes, yet it is generally found that in districts where such paludal fevers abound the surface is porous, penetrable, and retentive of moisture, although it does not appear on the surface; that the district had been at one time submerged, and that it continued slowly but constantly to undergo the process of dessiccation; or, while at certain seasons it imbibes moisture from local or meteorological sources, at other seasons it undergoes the drying process under intense solar heat. Such are some of the most sickly and febriferous districts in Europe, India, and America."

Not only is there abundant positive evidence of the effect of this state of things in the evolution of malaria, but the negative evidence is equally as strong, if, unfortunately, not so abundant. "An increased outflow lowering the subsoil water, has been observed in drainage operations, and very malarious places have been rendered quite healthy by this measure, as in Lincolnshire, and many parts of England. The case of Bofaric, in Algeria, is a good instance. Successive races of soldiers and colonists had died off, and the station had the worst reputation. Deep drainage was resorted to, the level of the ground-water was lowered less than two feet. This measure, and a better supply of drinking water, have reduced the mortality to one-third."—*Parkes.* "Ancient Rome was once the seat of so many fatal epidemics, that the Romans erected a temple to the goddess Febris. These epidemics were known to arise from the great masses of water poured down from the Palatine, Aventine, and Tarpeian hills, and becoming stagnant in the plains below, and converting them into swamps and marshes. The elder Tarquin ordered them to be drained, and let their waters by means of sewers to the Tiber. These subterraneous conduits ramified in every direction under the city

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and were of great height and breadth. This system of drainage, which was continued as late as the Cæsars, rendered Rome proportionably healthy, and the seat of a larger population than has since perhaps been collected within the walls of any city. On the invasion of the Goths, however, the public buildings were destroyed, the embankments of the Tiber broken down, the aqueducts laid in ruins, the sewers obstructed and filled up, and the whole country being now again overflowed, Rome has once more again become the seat of an annual paludal fever, as in the times of her earliest foundation."—*Aitken.* It seems that the mineral composition of the soil plays no part in the production of malaria; it has been found on chalk, limestone, sand, and even, under special conditions, on granite soil. Many malarious soils contain a large proportion of iron.

I think there is an erroneous impression, even in the professional mind, in regard to the horizontal and vertical range of malaria. I have known instances where innocent swamps and ponds have been accused of being the cause of malarial diseases in a locality where such ponds and swamps were, in some instances, one or two miles away, and were covered and surrounded with trees and undergrowth. It is unusual for malaria to move far from its source; even at times a few feet will circumscribe the area of its potency; this fact, if it be one, and I think it is one in the main, is of great practical value to all who reside in a malarial district of country, and its general dissemination as a truth among country denizens and village people may enable them to rise to a higher level of health, and enjoy the countless blessings that accrue to a vigorous development; enable them to enjoy an exemption from chills, fevers, neuralgias, aches, redundant bile, pecant humors, and dwarfed intellectual and physical proportions.

Dr. Tebault states that—"Malaria is somewhat heavier than atmospheric air, but under certain hygrometric conditions it rises and floats in the air, and obeys its currents. Its horizontal range is more limited than what one might have supposed, being seldom conveyed by ordinary winds beyond a distance

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of 500 yards over land, and still less over water, which latter, in all probability, has a tendency to attract and absorb it. Its vertical ascent, under usual circumstances, does not appear to exceed 300 feet before it is rendered innocuous by dispersion. Should it be arrested by hills to leeward, it may accumulate there by continual influx, or be propelled even to a height of 500 feet or more. * * * * The conduction of malaria seems much facilitated by the hot days and cool nights of its appropriate season. * * * * Winds, particularly those from the south and west, bear it in their direction, whence places lying to the north and east of infected spots are more insalubrious than those in opposite directions." (*Virginia Medical Monthly*, September, 1874, pages 333 and 334.)

Dr. Parkes gives a somewhat wider range than Dr. Tebault, but does it in order to be secure in his statement. He says: "It is well known that even a slight elevation lessens danger —a few feet, even, in many cases—but complete security is only obtained at greater heights. * * * I cannot help suspecting that 1,000 to 1,200 feet would generally give security" (in vertical ascent).

"*Horizontal Spread.*—In a calm air, Levy has supposed that the malaria will spread until it occupies a cube of 1,400 to 2,000 feet, which is equivalent to saying it will spread 700 to 1,000 feet horizontally from the central part of the marsh."

It does not spread so far over water; and it is capable of being wafted farther by strong winds. The virulence, as it were, of malaria varies in different countries, its infecting distance both over land and water being strongest in the tropics.

Prof. Aitken confirms the above statements in the main (see pages 1,013, and 1,014, vol. ii., *Science and Practice of Medicine*, Clymer), and makes the following statement, which I regard of sufficient practical importance to embody in this report; the same point has been noticed by writers in this country, and has been utilized by people in constructing their houses and in adapting summer sleeping quarters.

"In towns partially freed from miasmata by extensive drain-

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age, the difference of a few feet perpendicular height makes an almost inconceivable difference in the liability of persons to paludal disease. The barracks of Spanish-town, the capital of Jamaica, for instance, consists of two stories, or of a ground floor and a first floor; but it being found that two men were taken ill on the ground floor for one on the first floor, it was at length ordered that the ground floor should be no longer occupied. Dr. Cullen remarked a similar result at Porto Bello, Dr. Fergusson in Santo Domongo, and Sir Gilbert Blane in the expedition to Walcheven. This law is so well understood in the West Indies that in Demerara and many other parts the houses are built on dwarf columns, after the manner of corn stacks, in order that a stratum of air may be interposed between the house and the ground. In Rome and in other towns in Italy, it is also well known that the lower rooms of the houses are abandoned, the family occupying the upper rooms as affording a greater protection from the paludal poison."

I have thus, in as brief manner as possible, given a short report of the present view of the nature of the cause of malarious fevers as taught by most medical scientists of to-day. They may be formularized as follows:

1. That malaria is due to vegetable organic germs or spores.

2. That these grow and multiply in a damp soil with superficial ground-water, which has been exposed to a heat at and above that of summer temperature, and which contains in solution more or less vegetable matter. Too much water is as fatal to this process as too little water.

3. That these germs are heavier than the atmospheric air; that their vertical spread is short, varying from thirty feet to one thousand; their horizontal spread does not often exceed 500 yards (or 1,200 or 1,500 feet).

4. That a sure way to prevent the growth of malarial germs is to keep the ground dry; lower the level of the ground or sub-soil water. As surely as that vaccination will prevent small-pox, will a thorough system of sub-soil drainage prevent malaria.

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It will not be out of place to illustrate in a practical way the value of drainage. Mr. R., living in the canebrake of this State, bought a place at a low price in that fertile section because it had the reputation of being sickly. Every white family that lived there was compelled to move away after much sickness and many deaths. The first summer he occupied it, "the doctor was there every day;" his family suffered the fate of all the others, though, fortunately, there were no deaths. He became impressed with the fact that his ground was very wet, and remained so late in the summer. He determined to try the valueof drainage; he encircled his yard with a deep ditch, and had another to run off from this to the neighboring natural drains; in digging this latter ditch he was compelled to cut through a vertical dip of crystalized lime-rock. These ditches effectually drained the ground on which his residence was located; it would seem that this lime-rock prevented the water from escaping from the soil; gathered it, as it were, into an earth-filled basin, thus raising the ground-water to a high level. After this the place was as healthy as could be desired; there was no longer any need for the visits of the physician; neither did the condition of neighboring plantations affect him; his little well-ditched residence-grounds were no longer pestilence-producing, but were dry and healthy, and the abode of domestic comfort and happiness.

There is a moral to this report of mine that I would like to impress not only upon those who hear me in the medical profession, but upon every citizen in the State of Alabama—a moral that is no longer within the mystic realm of philosophic speculation, but stands out a beacon truth in the light of sanitary science; a moral that inculcates a procedure that may be complex, that may be costly, that may be laborious, according as to its perfection and completeness, but a procedure that offers the most complete exemption from all malarious diseases in their myriad phases, and would more largely reduce the death-rate in Alabama than any other, thus giving us an enviable and attractive reputation abroad—and that moral is, THOROUGH DRAINAGE.

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SURGICAL CLINIC OF PROF. W. T. BRIGGS,

Professor of the Principles and Practice of Surgery in the Medical Department of the University of Nashville and the Vanderbilt University.

REPORTED BY C. S. BRIGGS, A. M. M. D.

CASTRATION.

T. DAWSON, white convict, from the State Prison Hospital, appears before you to-day for relief of an affection of the testicle. The general appearance of the patient indicates that he has been the subject of great suffering. He is anæmic, very weak and much emaciated. Several months since he received an injury of the left testicle, resulting in orchitis, or inflammation of the testicle. The inflammation thus induced ran a very violent course, and finally terminated in that rare event of orchitis, suppuration, followed by the still rarer result, abscess. The abscess then made for itself a spontaneous opening through the scrotum and discharged its contents. The opening thus made filled up with a mass of exuberant, unhealthy granulations, which finally multiplied so fast as to project an inch or more from the surface of the scrotum, forming a fungous tumor. In this state he presents himself for operation.

The tumor, as you see, is confined to the left testicle, is about the size of an orange, the projecting surface of a livid purplish color, easily bleeding, and not very painful, with its surface covered by a thin layer of pus. The treatment of such a growth varies with circumstances. Were it small, and disorganization of the testes had not progressed to any extent, the protuberant granulations might be replaced and retained by strips of adhesive plaster; or the edges might be pared and approximated by sutures. At a later stage the projecting parts might be cut off, and the latter of the above mentioned

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procedures, carried out. But here the mass of the disease is so great, and the disorganization of the organ so complete, that nothing short of castration will effect a cure. This operation I shall now perform. I shall make the incision of an elliptical form so as to include the fungous mass; dissect it out, then sever the cord, and apply ligatures to the bleeding arteries. The edges will then be drawn together, and cold water dressings applied.

(The patient being etherized, the operation was performed as above described, there being little or no hemorrhage. The edges were brought together by silver sutures, and the patient sent back to the hospital. He has entirely recovered from the operation and is now well in every respect. Microscopical examination showed the testicular structure pretty well destroyed, and the mass of the tumor to be made up of the organized products of inflammation.)

CLITORODECTOMY.

The next case I present to you, gentlemen, is one of a very peculiar and rare nature—elephantiasis clitordis. The patient is an inmate of the University Hospital, and is about twenty-five years of age. She is a member of the *demi monde*, has long been the subject of syphilis, and is anxious to have the tumor removed which prevents her from plying her regular vocation. The tumor, as now displayed, is a pendulous growth hanging between the thighs, about five inches in its long and four in its short diameter; rough and ridgy surface, cartilaginous to the feel, and pale in color. Its upper extremity is narrow, its lower broad and rounded—the whole tumor being pear-shaped.

Elephantiasis consists in a hypertrophy of the cellular tissue, and is found most frequently in the scrotum and lower extremities. The cause of the disease is not known, but may, in this instance, safely be attributed to protracted irritation. The only manner in which we may get rid of the tumor is by performing the operation of clitorodectomy. The operation is generally attended with much hemorrhage, as these parts are

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very vascular; but we hope to escape this trouble by the use of the chain ecraseur. I shall merely pass the loop of the chain around the neck of the tumor close up to the body, and by slow manipulation let the instrument cut its way out.

(The ecraseur was applied and worked well until it had nearly severed the pedicle, when the chain broke and had to be removed. The operation was concluded with scissors and attended with but little hemorrhage, which was repressed by application of lint dipped in Monsel's solution. The patient made a rapid recovery, and in a week was discharged cured. Sections of the tumor, examined under the microscope, exhibited the structure of a fibro-areolar tumor.)

TRACHEOTOMY.

This little patient I present to you, gentlemen, is the subject of a very rare and interesting disease. From the loud, stridulous, and labored breathing, you can all see that the difficulty is situated somewhere in the air-passages.

The history of the case is very obscure. She is a colored girl, aged nine years, from the country. Some months ago her mother noticed a slight difficulty in her breathing, which was gradually increased with evening exacerbations, until now it seems as if she could hardly live through her nightly paroxysms. You see now, as she is brought before you, that she has great difficulty in breathing, and that the breathing is croupous. Frequently she has croupous crough. Upon auscultation the lungs seem not to be affected, nor does percussion reveal any marked dullness. The obstruction is certainly in the larynx. Laryngoscopic examination of the organ has been attempted, but in consequence of the irritability of the parts and restlessness of the patient, has not thrown any light on the nature of the trouble. It is our opinion that the difficulty is dependent on a scrofulous thickening of the mucous and submucous tissues of the larynx, or on the development of a tumor within that organ.

Whatever may be the cause, it is imperatively necessary that tracheotomy shall be done, and at once; for if relief to

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her breathing is not speedily obtained she will die from suffocation. If the cause of obstruction is, as I am inclined to believe, scrofulous thickening of the tissues, the artificial opening, by giving perfect rest to the larynx, may give permanent relief; but if the trouble continues, then another operation will be necessary, viz., Thyrotomy, for the removal of any foreign growth.

This morning I shall perform the first mentioned operation. I shall make an incision in the median line of the neck over the trachea through the integument and superficial fascia. Then with the finger-nail and handle of the scalpel, pushing aside the muscles, tear away the structures down to the trachea, avoiding as much as possible the plexus formed by the inferior thyroid veins. Having reached the trachea, and seeing that the hemorrhage is entirely stopped, I shall incise the trachea with a straight bistoury, by cutting upward, and then insert the trachea tube, which is retained in place by tapes fastened behind the neck.

(The patient being thoroughly anæsthetized and placed in the proper position, the operation was performed as above indicated. The hemorrhage was for a while troublesome, the veins being greatly engorged from the obstruction to respiration. The tube was inserted without difficulty, some adhesive strips applied on each side the wound, and the tapes tied behind the neck. The irritation produced by the introduction of the tube caused considerable cough at first, and a copious expectoration of mucus took place, which, however, ceased in a few days. The operation was performed October 22, and the patient now (November 18) seems to be recovering—breathing freely when the tube is withdrawn, and speaking very distinctly. The tube will be removed shortly and the patient dismissed.)

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Selected Articles.

DIAGNOSIS OF ENLARGED BRONCHIAL GLANDS IN CHILDREN.

BY EUSTACE SMITH, M. D., F. R. C. P.,

Physician to H. M. the King of the Belgians; Physician to the East London Children's Hospital; Assistant Physician to the Victoria-Park Hospital for Diseases of the Chest.

ENLARGEMENT of the bronchial glands is a very common lesion in early life. In many children the lymphatic glands generally over the body enlarge upon the slightest irritation, and when once swollen, are slow to return to their natural size. It is in these cases that cheesy degenerations are apt to occur in the swollen glands, and suppuration, with the formation of an abscess, may be the consequence. This is common in the case of the cervical glands, and happens sometimes in those of the chest. In any case, the presence of a cheesy mass is not unattended with risk, and its very existence is a sign of that vulnerability of constitution which predisposes to the so-called consumptive diseases, and is a constant source of danger.

Children who have been subject to repeated attacks of pulmonary catarrh are very liable to enlargement and caseation of the bronchial glands. Whooping-cough is also apt to leave behind it the same condition, and after measles it is frequently met with.

The seat of the enlarged glands is at the bifurcation of the

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trachea, and therefore behind the first bone of the sternum, and a little below it. They give rise to dulness on percussion at this spot, and the dulness often extends to each side of the bone, and also downwards to the upper part of the second bone. In the case of young children there is sometimes, in health, a little dulness on percussing the upper bone of the sternum, produced by the underlying thymus gland, but the dulness does not, in such cases, reach laterally beyond the limits of the manubrium. In the case of great enlargement of the bronchial glands there may be dulness also behind in the intrascapular region, but this is rare on account of the thickness of lung which intervenes between the glands and the posterior wall of the thorax.

The symptoms by which enlargement of the bronchial glands can be distinguished—viz., distention of the cervical veins, swelling of the neck, dyspnœa, spasmodic cough, and whispering voice—are all pressure signs due to the encroachment of the swollen body upon the parts around. They are, therefore, not present until the increase in size of the glands has become considerable. In these cases the dulness on percussion is usually marked, and if the glands are of sufficient size to compress the trunks of the large vessels, the ordinary stethoscopic signs of such pressure will be heard. At this stage the nature of the case is obvious; but at an earlier period, and before the enlargement has become sufficiently great to give rise to the signs enumerated above, the diagnosis of the lesion is much less easy, as the symptoms by which it is accompanied are few and obscure. At this time much assistance can be gained from the following experiment:

If the child be made to bend back the head so that his face becomes almost horizontal and the eyes look straight upwards at the ceiling above him, a venous hum, varying in intensity according to the size of the diseased glands, is heard with the stethoscope placed upon the upper bone of the sternum. As the chin is now slowly depressed, the hum becomes less loudly audible, and ceases some time before the head is brought back again into the ordinary position. The explanation of this

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phenomena I believe to be that the bending backwards of the head throws forward the lower end of the trachea, which carries with it the glands lying in its bifurcation, and the left innominate vein, as it passes transversely behind the first bone of the sternum, is compressed between the enlarged glands and the bone. In cases where this sign has been present there has often been some slight dulness over the manubrium, leading one to suspect the existence of enlargement of the glands, and the occurrence of the hum thus produced I now always consider to be evidence confirmatory of the suspicion.

The experiment does not succeed in cases of flat chest, where there is no reason to suspect glandular enlargement, nor can the hum be produced by the thymus gland in a healthy child. This gland lies immediately behind the sternum in front of the great vessels; enlarged bronchial glands lie behind the vessels in the bifurcation of the trachea. A swelling in front of the vessels does not appear to set up pressure upon the vein when the head is bent back in the position described. I have examined many children, with a view to test this point, and in no case have I found the characteristic hum produced except in cases when there was reason, from other symptoms, to suspect the presence of bronchial glandular enlargement.

The following cases furnish good illustrations of the symptoms in question:

Arthur P——, aged 8 years, had had scrofulous disease of the knee-joint for twelve months. The cervical glands were enlarged, and his skin generally was harsh and dry. For two months his breathing had been short, although he had had no spasmodic attacks of dyspnœa. During the same time he had been troubled with a dry hollow cough. There was slight dulness at the left supra-spinous fossa, and a little crepitating rhonchus was heard there at the end of inspiration. There was no dulness on percussion at the upper part of the breast-bone, but when the boy held his head back so as to turn the face upwards to the ceiling, a loud continuous hum was heard near the left edge of the front bone of the sternum, and this ceased when the chin was brought down again into the natural

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position. This boy had no swelling of the cervical veins, spasmodic cough, or other sign of enlarged bronchial glands, except the peculiar and characteristic hollow, almost cavernous breathing, which is often heard in such cases, when the lips are closed, over the upper part of each lung. This, however, disappeared to a great extent when the mouth was open.

Alice T——, aged 6 years, a pale thin child, had been weakly for several months, and had been getting thinner. She had no cough to speak of. On stripping the child to examine her chest, it was noticed that the superficial veins at the upper part of the breast-bone and at either side were unusually visible. The veins of the neck were not distended, nor was there any enlargement of the cervical glands. The percussion note on the front bone of the sternum was perhaps a little high-pitched, and when the child bent her head well backwards, a very loud continuous roaring sound was heard over the first two sternal bones, and extended to the articulation of the second right cartilage. The sound ceased when the chin was depressed again. There was no dulness in the intrascapular region behind.

It would be easy to multiply illustrations of this symptom, for disease of the bronchial glands is very common in children. I believe the hum in the vein to be capable of being produced in every case where the glands of the chest are enlarged, so long as these are movable. If they are fixed, and at some distance from the sternum, the experiment fails. Thus, in a boy aged 3 years, the subject of lymphadenoma, who died in the East London Children's Hospital, under the care of Dr. Bruce, there was dulness at the upper part of the breast-bone, which was continued down in a pyramidal form as far as the heart's dulness. No venous hum, however, was produced by bending back the head. On examination of the body of this child, yellow flattened cheesy masses were found adherent to the inside of the sternum, and others, much enlarged and immovable, were seen filling up the interval between the bifurcations of the trachea. In this case, the alteration in the position of the head did not set up pressure upon the vein, as the

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glands, being fixed, could not be carried forwards against the vessel.

The venous hum thus produced by bending back the head I believe to be the earliest sign of enlargement of the bronchial glands in a child, preceding dulness on percussion, and occurring long before the ordinary pressure signs on which the diagnosis of the lesion is usually made to depend.—*London Lancet*, October, 1875.

ON ANÆMIA.

BY JULIUS POLLOCK, M.D., F.R.C.P.,
Senior Physician to Charing-Cross Hospital.

THE disease which we call anæmia, more or less incorrectly, but for which perhaps it would be difficult to find a more appropriate name, may be the result of a number of different causes. I do not propose now, however, to consider more than one form of anæmia—that which we meet with so frequently amongst young unmarried women, and which generally occurs in connection with some disordered state of the menstrual function. In such cases the catamenia are usually irregular in their appearance, frequently absent for months together, the discharge pale and scanty when it does occur, lasting sometimes but a few hours.

The relation of anæmia to amenorrhœa, pathologically, is of some interest. Is the latter due to the poverty of the blood? or is the formation of red corpuscles in some way discouraged by the irregular performance of the uterine functions? Doubtless anæmia, however produced, frequently gives rise to a scanty and infrequent catamenial discharge, as we see in advanced

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phthisis, and other wasting and blood-spoiling disorders. But is the converse true? Will functional irregularity of the monthly periods, when continued for any time, produce anæmia? I believe it will. There is some reason to suppose that the menstrual discharge is, to a certain extent, an excretion; and possibly its absence may lead to the retention in the blood of some material hostile to the formation of red-corpuscles. We certainly see cases of young girls who have enjoyed good health and looked well up to the period of puberty, in whom anæmia has gradually occurred in consequence of the non-appearance of the catamenia at their proper time; and the accidental stoppage of the courses in a healthy young woman, from exposure to wet and cold at an unfortunate time, or from some shock to the nervous system, will often, if the function remain suspended any time, lead to anæmia. But I do not think that the disorder is produced in these cases so much (if at all) by the retention of some morbid matter in the blood, as by the disturbing effect upon the nervous system of the absence or irregular performance of an important sexual function.

When this form of anæmia is allowed to go on without proper treatment, the patient ultimately presents an almost blanched appearance, the skin having a sickly green tint; hence the term "chlorosis." The lips and the cheeks are usually as pale as the forehead, but the face not unfrequently has an unnatural flush, which might deceive the inexperienced. The conjunctivæ are of a pearly white, sometimes of a slightly yellow hue, which must not be mistaken for jaundice. It is a wonder how such persons can get about or do anything, and, in truth, they are not fit for much. Upon the slightest exertion, and especially on going up stairs, they suffer from palpitation of the heart and breathlessness. They often feel faint, giddy, and sick; complain of pain in the left side, indigestion, loss of appetite; the bowels do not act well, the tongue is furred, and the breath foul; towards evening the ankles become puffy and swollen; a soft systolic bruit may frequently be heard over the base of the heart, and in the veins of the

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neck the stethoscope will detect the so-called "humming-top" murmur, or *bruit de diable;* but it must be remembered that this latter sound may be sometimes produced in a healthy person by the mere pressure of the stethoscope.

Anæmic women are generally more or less nervous, and sometimes hysterical, but I should not say there was any marked connection between anæmia and hysteria.

How are these cases to be treated? Clearly by so nourishing the blood as to build up the red corpuscles and raise them to the proper standard in health. Steel is the medicine upon which we chiefly rely to effect a cure, but to be successful in the treatment requires some care and discrimination. If the tongue is coated and the digestion much impaired, the more astringent forms of iron, such as the sulphate or the perchloride, are often not tolerated at first; and the ammonio-citrate, the mistura ferri co., or the ferrum redactum, will be the best to begin with. In a large number of cases I have found nothing so successful as a combination of the ammonio-citrate of iron and rhubarb in suitable doses, with equal parts of some bitter infusion and peppermint-water. Sometimes the addition of two or three grains of the carbonate of ammonia seems to be useful. I make rather a point of the rhubarb, although it is so disagreeable to take, as I believe it much assists the action of the steel, especially when the stomach is out of order. If the patient is very nervous, ten grains of the bromide of potassium may be added with advantage to each dose of the mixture. If the rhubarb in the mixture does not act enough upon the bowels, it will be necessary to prescribe some aperient pill to be taken at bedtime. Preparations containing aloes are of service, and may be combined with steel. Pepsine is often used with the meals. The diet should be light and simple; beer had better be avoided in most cases, and a glass or two of light claret may take its place with advantage. I believe claret is certainly better than port, although that wine is so often recommended. A moderate amount of exercise out of doors, when the weather permits, should be insisted upon, but anything like fatigue must be avoided. A tepid bath in the

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morning, and a rub down afterwards with a rough towel, is a good thing.

By-and-by, in a few weeks, more or less, the steel and rhubarb mixture may be left off, and fifteen drops of the solution of perchloride of iron given after each meal, in a wineglass of water.

Under the very best and most careful treatment, the improvement in anæmia is not unfrequently slow and tedious, and, to prevent disappointment, it is as well to caution patients and their friends that they are not to expect, as a rule, any very rapid change. Once get the patient on the road to health, however, and time and perseverance will do the rest.—*London Lancet.*

THE LEAST SACRIFICE OF PARTS AS A PRINCIPLE OF SURGICAL PRACTICE.

Mr. Bryant read a paper before the Medical Society of London, on the 11th of January, (since published entire in the numbers of *The Lancet* for February 13 and 20), in which he maintained the above principle.

He explained it as one that forbade the surgeon to sacrifice more of the body than the absolute necessities of the case demanded; that called upon him to remove the disease, but no more; that enabled him in accidental surgery to make a flap for an amputation wherever he could, and in some cases to make no flap at all, but to leave the case to nature to repair; and, in pathological surgery, to cut through tissues infiltrated with inflammatory deposits rather than go above a joint or take away more of a limb than the necessities of the case de-

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manded. He condensed the subject into three main propositions, each of which he illustrated by cases.

The first proposition was: "That, in case of division or accident, no more of the body is to be taken away than the necessities of the case demand." He illustrated this chiefly from the surgery of the foot. At first sight the proposition might appear to be a truism; but he asked if it were not true that, in cases of disease of the metatarsal bones or joints, surgeons were not too apt to regard the individual case as a good one for Chopart's operation, or Pirogoff's, or Syme's, and to forget that a good recovery of the foot might ensue on removal of the diseased bone or bones, without any amputation at all. In support of this he quoted Mr. Lister (Holmes's *System of Surgery*, second edition, vol. v.), who expressed his opinion that "Syme's amputation is calculated to supersede entirely that of Chopart, besides taking the place of amputation of the leg in the majority of cases formerly supposed to demand it." He entirely dissented from these views; he believed that, for local disease alone, no form of amputation of the foot should be entertained until less severe measures had been employed, and failed; that, when amputation of the foot was called for, the minimum amount of foot should be taken away; that, when a Chopart's operation would suffice, a Pirogoff's should not be thought of; that when a Pirogoff's was applicable, a Syme's should not be entertained; and that an amputation of the whole foot was never to be undertaken when the disease could be removed by less severe measures.

The remarks made were as applicable to other parts as to the foot. Fingers and thumbs were often removed in cases of injury that, if left to nature, might often be saved. Joints were excised that might be saved by free incisions, or by the removal of necrosed bone; and amputations were performed above a joint, or high up a limb, in order that good flaps might be made. He illustrated all these points by cases, quoting several cases of disease of the different tarsal bones, cured by the removal of the diseased bone; and three cases of extensive disease treated respectively by Chopart's and Syme's amputa-

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tions, or by amputation of the leg. In disease of the bones of the foot, he had met with a case in which the resection of a tarsal bone was called for; for bone that was not dead was reparable, and to take this away was too often to take away that which, if left, would make good the parts that had died.

The author then proceeded to illustrate the value of the proposition by the treatment of cases of diseased joint, and dwelt for some time upon the value of free incisions into suppurating joints. He referred to thirteen cases successfully treated by this method, and stated his belief that a free cut into a disorganized articulation was rarely followed by any other than a good result; that, when the suppurative process was due to synovial disease, a recovery, without further surgical interference, might be looked for; when it was due to local necrosis, the incision helped nature towards recovery by expediting exfoliation and the subsequent removal of the bone by either natural processes or some surgical proceeding. In more severe cases, the incisions gave relief, and in no way added to the mischief.

The treatment of disease of the joints due to local necrosis was then considered, and a series of ten cases was read, including examples of disease of the shoulder, elbow, hip, knee, and ankle-joints, in which recovery followed the removal of dead bone from the articulations.

The second proposition was: "That, to carry out this principle, the surgeon may, in pathological amputations, fearlessly divide tissues infiltrated with organized inflammatory products, and even cut through the walls of suppurating cavities, or through diseased joints, more particularly to save amputating above a joint."

Mr. Bryant illustrated this proposition by the particulars of ten cases, in all of which recovery took place.

The third proposition was: "That, in accidental surgery, parts irreparably injured are alone to be removed, and no healthy tissues are to be sacrificed in order to perform a recognized, and probably a named operation; that, to these ends, the surgeon ought to utilize even doubtfully useful integument,

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or even leave a stump to granulate, when, by so doing, some portion of the shaft of a bone can be left, a joint saved, or amputation above a joint avoided."

In the surgery of the hand, this practice was strongly advised, more particularly the injuries of the thumb. Amputation of a thumb, unless smashed irreparably, the author condemned; and, under all circumstances, the irreparably injured parts ought alone to be taken away, and doubtfully viable skin left. Cases were quoted to illustrate the proposition; ten of the toes; one of the foot; a Chopart's amputation, in which a long anterior flap was made; one of crushed arm, which was left to nature to granulate, and a good stump left; two of crushed legs, in which a rapid recovery followed amputation at the knee-joint; and one of ruptured popliteal artery, treated in the same way with success.

The author concluded by stating that he could still further illustrate the value of the principle "of the least sacrifice of parts," pointing out how Sir W. Fergusson had always urged the removal of tumors of the jaw from within, and Sir James Paget tumors of bone generally by enucleation.—*British Medical Journal*, Feb. 6, 1875.

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ON THE TREATMENT OF TYPHOID FEVER.

BY W. H. THOMPSON, M. D.,

Professor of Materia Medica in the Medical Department of the University of New York.

COMPLICATIONS.

GENTLEMEN—We will conclude now with the treatment of the complications and accidents which may arise in the course of a typhoid fever, and which may either cut short the case by death, or else prolong the illness to an indefinite period beyond the normal limits of the complaint. The first and commonest of these is a WEAKENING OF THE HEART, due mainly to fatty degeneration of its walls induced by, and ordinarily proportioned in its extent to, the degree of the pyrexia. So debilitated may the heart become, that your patient may die suddenly from syncope upon rising too quickly in bed, or on his feet, though then fairly convalescent from the fever. But it is generally from visceral disorders, induced in the later periods of the fever by this state of the heart, that a watchful attention on your part for the symptoms of cardiac feebleness becomes so necessary, because even in the worst cases timely measures may avert its chief perils. The danger from this source is to be apprehended most in those patients who had weak or damaged hearts before they contracted the fever. Thus the prognosis of typhoid is much more grave in corpulent short-winded people than in the lean and muscular, and in those whose long-continued or free use of alcohol has produced the fatty heart of drinkers. I saw also, lately, a young lady, who had been suffering for some years from valvular disease, succumb rapidly to dilatation of her hypertrophied heart occurring during a comparatively slight attack of pericarditis, following upon a typhoid fever from which she had apparently

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so far recovered as to be able to take a long railroad ride, but which very probably was the immediate cause of fatally aggravating her cardiac lesions at a time when the fever had specially disposed the ventricular walls to dilatation. The indications of cardiac weakness are to be watched for, first, by a careful attention to the action of the heart itself; and secondly, to the state of the pulse. The character of the heart-beat is of greater value than the state of the pulse, for the latter varies to a remarkable degree in typhoid, so as to be very puzzling at times to inexperienced observers; but you can scarcely fail to obtain trustworthy signs of impending danger if you practice auscultation faithfully. In the first stages of the fever, and in many cases throughout its course, till the beginning of the defervescence, the frequency of the pulse is strangely disproportioned to the height of the thermometric range. I have repeatedly known it to fall short of 90 for days together, while the thermometer stood at 104° or higher, and during the first week the diagnosis of this fever has often been missed because the pulse remained slow and regular. During convalescence, however, you may have the frequency suddenly increase by twenty or even thirty beats, from changes of position, slight errors of diet, etc., while the thermometer may be even below its norm. A *persistently* rapid pulse, nevertheless, is not a favorable symptom, for it indicates a state of cardiac weakness, which is the more to be apprehended if the pulse be weak and compressible as well, and worse than all, if it be dicrotic. On the other hand, cardiac weakness is certainly diagnosed whenever the apex beat diminishes in force, and the first sound of the heart grows faint and muffled. In some these signs are present before acceleration of the pulse is developed, but whenever noted you should not delay your recourse to cardiac stimulants. It was upon this indication that Graves based his excellent rule for the administration of alcohol in fevers, and it is desirable to emphasize this truth, so as to prevent the abuse of stimulants, which prevailed so extensively of late, chiefly from the extreme advocacy of alcohol by the late Dr. Todd, of London. It should be borne in mind that alcohol

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stimulates best when first administered, and progressively loses its power the longer, as well as the more, it is taken. If we begin with free doses in the first week, we certainly do *not* forestall by it the prostration of the third week, but instead, reap the evil of not securing the benefit we would have from it if it had been withheld until actually needed. If we dreaded, for example, the loss of blood from a proposed surgical operation, still we would scarcely think of beginning the stimulation of the patient a week before he was to be operated upon, and yet some such idea must have influenced those authors who spoke in favor of early stimulation in fevers. When cardiac feebleness, however, begins, we should commence with our alcoholic doses, and aim to make them tell upon this one condition, and on no other. I have small faith in either the apyretic or the nutritive value of alcohol in fever, not that I deny these properties to this agent, but because they are of such minor importance in comparison with its undoubted efficacy in stimulating the heart, that our administration of it should be regulated by the best means of obtaining the latter result alone. I do not recommend the employment of wine in any form, but rather the administration of strong spirits like brandy or whisky. There is no doubt, too, that the spirit should be given only with food—in this case milk—if we wish to prolong its sustaining effect; not necessarily in the milk, but if so preferred by the patient, in water, just after the milk is taken. The dose also should be one which will surely increase the power of the cardiac systole, which of course will vary either with different individuals, or at different times with the same individual; but what is meant by this recommendation is, that a few free doses are better, as a rule, than a great many small ones. Besides alcohol, we have a very potent cardiac stimulant in sulphuric ether, and which, moreover, is such a near relative to alcohol that in this condition it is best administered in alliance with it, so to speak. An ounce of brandy at one time, and then at the next dose half an ounce, with a drachm of Hoffman's anodyne, is far more likely to sustain an enfeebled heart than three ounces of brandy divided

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up into six doses. Ammonia is another cardiac stimulant, but I would advise your reserving it for the next complication we are going to speak of.

Occasionally in the course of this fever, as well as in typhus, scarlatina, or measles, a dangerous collapse may unexpectedly occur from a sudden PARALYSIS OF THE HEART. This organ begins to beat very feebly, and seems able to propel the blood only into the neighboring large viscera, so that the lungs become greatly congested and severe dyspnœa develops, indicated by rapid and very shallow breathing. The liver and kidneys also become engorged, while the whole surface turns cold, white, and shrunken, and the muscles of the extremities, as in the calves of the legs and flexors of the forearm, become cramped from the arterial blood not reaching them. The patients also complain of a dreadful sense of vacancy or sinking, referred to the pit of the stomach; and though the skin is very cold, yet they feel as if they were burning inwardly, and beg for ice or cold drinks on account of the intense congestion of the stomach and other parts connected with the portal circulation. Meantime the anæmia of the surface causes the eruption to fade to such a degree as to fill the nurses or friends with the alarming notion that the scarlatina or measles has "struck in." These emergencies require prompt treatment, for your patient may either die in them outright or succumb afterwards to some visceral derangement, such as pneumonia, or, more commonly, renal suppression. The heart being the seat of the trouble, the first thing to do is to apply saucers or small plates dipped in hot water to the epigastrium. Dr. Wood, Sr., of Philadelphia, mentions applying a live coal to the pit of the stomach in a case of typhus, and after recovery the patient described its sensation as positively agreeable from the relief he experienced from the distressing feeling of vacancy there. The next thing to do is to give one or more hypodermic injections in this neighborhood of about forty minims of brandy. This is an exceedingly valuable measure in all conditions of cardiac collapse, and I have never seen any local irritation produced by it. The patient's friends will not

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wait for advice as to dry heat to the extremities, as well as sinapisms, friction, etc., and they are all useful; but if reaction is protracted you should first wrap the patient in a sheet, upon which a boiling infusion of a drachm of capsicum to the quart of water has been poured, and then over this a blanket; and lastly, if everything else fails, a hot bath not above 103°, continuing meantime hypodermics of brandy rather than by the mouth, nothing but pieces of ice being permitted to be swallowed. It is singular to note sometimes how temporary these cardiac prostrations are, for your patient, on coming out of them, may subsequently run quite a favorable course with his malady; but this remark applies much more to the eruptive fevers proper than to typhoid, where they are more prone to recur, owing to the longer continuance of the pyrexia.

Pneumonia in typhoid fever is not an uncommon complication. The first signs of its approach are a rise of temperature and increased frequency of the respirations, rarely cough or rusty sputa. The pneumonia, indeed, is generally preceded for some time by hypostatic congestion of the lungs, and this is a direct consequent upon weakness of the right side of the heart, and hence is more to be expected in patients who have been troubled previously with chronic bronchitis or emphysema. The pneumonia, in the great majority of cases, is lobular, and not of the croupous lobar form, complicated by pulmonary œdema, and very rarely accompanied by much pain. It is now that he should have recourse to ammonia, and I recommend the carbonate in doses of ten grains every two hours, with the Hoffman's anodyne one drachm, and ten minims of tincture of camphor. The belladonna tincture in doses of ten to fifteen drops every three hours is a valuable cardiac stimulant in this condition. The cold baths should by no means be omitted, for it often clears the lung up remarkably of its congestion, from the relief its affords to the enfeebled heart. It is well also to stimulate the surface of the chest frequently by a liniment of ol. terebinth., aq. ammoniæ, *āā* ℥ i., lin. saponis ℥ ij. Owing to the pulmonary derangement which typhoid fever induces, it is always a risk to those who are inclined,

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either hereditarily or otherwise, to phthisis. It is therefore important in them to be rid early of all signs of congestion of the lungs, and hence you should persistently employ surface irritants to the chest with them as long as any evidence of respiratory feebleness remains during convalescence. Owing to the laws of nervo-vascular connection, which I have had frequent occasions to allude to in my lectures, between the cutaneous and the vaso-motor nerves of the arteries of deep-seated organs, we should not neglect stimulating the thoracic surface by every means in our power, and for this purpose I know of no measure so effective as free faradization, either for causing absorption of pericardial or pleuritic effusions, or for the removal of a pulmonary exudation. The electrodes should be armed with moistened sponges, and held about six inches apart, and moved slowly over the chest anteriorly and posteriorly until the surface becomes well reddened, which it usually does in fifteen minutes, with a current of not too rapid intermissions.

We have already alluded to the treatment, or rather to the prevention, of the commonest complication connected with the alimentary canal, namely, the DIARRHŒA. If the pepsin and bismuth do not, however, check a too great flux, I would recommend a prescription of mine, which I have long relied upon for the treatment of chronic diarrhœa, from whatever cause, viz.: terebinthinæ resin, ʒ iij., argenti nitratis grs. v., pulv. opii grs. v. M. Ft. pilul. lx. The one objection to these pills is the number of them that have to be taken, namely, three at a time three times a day; but I have scarcely ever failed to check a flux by them, no matter how long its former continuance. Dr. Wood speaks very highly of turpentine as calculated to promote the healing of the intestinal ulcerations, both in this complaint and in the diarrhœa of phthisis, and it is possible that the silver may be an adjuvant in that action. When the patient cannot take the pills, I substitute a third of a drachm of the oil of turpentine in mucilage, with ten minims of laudanum to each dose. During convalescence, your patient's temperature and pulse may rise, and all progress for the

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time be arrested by the formation of scybalous masses in the large intestine, which may even alarm you by occasioning small, loose movements, streaked with blood. There is not much danger of intestinal hemorrhage, however, from them; but the bowels should be at once relieved by large enemata of linseed oil, molasses, and warm water, helped by a pill of ext. belladonna, gr. ¼, with five grains of soap. I know of nothing better than the above-mentioned pill of turpentine and silver for INTESTINAL HEMORRHAGE of typhoid, a complication, indeed, not nearly so likely to occur when pepsin and bismuth have been used as recommended, as when the intestinal contents have been allowed to remain a long time in a fermented condition. Should tenderness on pressure at the cæcum, however, persist for a length of time, do not let the fear of debilitating your patient prevent you from applying two or three leeches over the affected part. This will do more towards preventing the worst danger you can fear in this region than anything else that I know of, and I never saw any one the worse for the insignificant loss of blood which it occasions. Of course, should symptoms of INTESTINAL PERFORATION surprise you, the course to be pursued then cannot be doubtful. Opium should be given in any dose that will produce semi-narcotism, and not until the patient shows the signs of the action of this, our main-stay in peritonitis, should you cease to ply him with it. You are occasionally annoyed also with a trouble at the entrance of the alimentary canal, namely, with PAROTITIS, accompanied frequently with otitis. for the first I would recommend the application of ung. stamonii ℥ ss. chloral dydrat. ʒ i., pulv. champhoræ ʒ ss. ol. gaultheriæ gtts. xii., several times a day, and poultices; for the OTITIS, a persevering douche of the ear with warm water, best applied from those convenient contrivances, Potter's hydrostatic bags.

MENINGITIS, fortunately, is a comparatively infrequent result of typhoid, for when it occurs it is of bad augury. It is generally preceded by wakefulness, with fits of screaming, or else a delirium which seems out of proportion to the amount of fever. The diagnosis becomes quite certain when there is

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rolling of the head and retraction; the pupils are also commonly very sluggish. The patients are very fond of cold affusions to the back of the head, even if they refuse to have an ice-bag applied. The most efficacious measures against this complication I would enumerate in the following order: First, blisters to the nape of the neck and occipital region; secondly, ergot; and lastly, iodide of potassium. The action of a large blister in some cases is followed by the most striking improvement in the cerebral symptoms ever witnessed. I once saw a patient who had been first comatose and then imbecile for six weeks, after an attack of ordinary cerebro-spinal meningitis, so that she passed all her motions in bed, return permanently to complete consciousness as soon as the blister began to act. Ergot, to be of any use in this condition, should be administered in drachm doses of Squibb's fluid extract three times a day. I am not certain how much efficacy can be ascribed to the iodide, but if it does good the doses must not be less than a drachm a day. If there be much headache, the addition of Squibb's fluid ext. conium often relieves this greatly, and I am sure that this drug greatly promotes the action of the iodide in syphilitic cases. If the meningitis assumes an active form with increase of temperature and mania, the application of two or three leeches to the mastoid process relieves the patient, as evidently in this case as it always does in ordinary intercranial inflammations. There is one point, however, on which much stress ought to be laid, and that is, to prevent at any price WAKEFULNESS during the decline of the fever and during the convalescence. We include under this term also sleep troubled by dreams. The weakened brain must have rest, or it may be very long before it will recover its former state, and for this indication I will conclude by recommending the following prescription: ℞. Magendie's sol. ʒ i., acid. hydrocyanici, dill. gtts. xii., chloral hyd. ʒ ij., elix. simplicis ℥ i., aq. camphoræ ad ℥ iij. Dose: Two or three teaspoonfuls at night.—*The Medical Record.*

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Editorials, Reviews, Etc.

THE HISTORY OF AMERICAN MEDICAL LITERATURE, from 1776 to the Present Time. By S. D. GROSS, M.D., LL.D., D.C.L., Oxon, Professor of Surgery in the Jefferson Medical College Philadelphia: Collins, printer, 705 Jayne street. 1875. Pp. 85.

Multum in parvo! It is astonishing how much research and observation the author has stowed away in these eighty-five pages—a whole century of medical men and their doings—the author himself, for one-half of that time a doer among them, having reached a position recognized and conceded by all as the topmost round of the ladder. It strikes us as more than probable that this, the last work of the century, will live and be quoted when all that has preceded it on this continent will be remembered no more forever. All else may be replaced and superseded; but this, the round link in the coming chain of centuries, can neither be replaced nor superseded. The author complained, in another publication, that the works of medical men died with their authors; but this will not die with its author, whatever may be the fate of his more pretentious productions. It must be read by physicians through all coming times with deep interest, as here alone can they find a faithful portraiture of their fathers. Nor was this labor performed any too soon, being achieved by one connected with the profession for fifty years, and who has made up the more interesting portion of his booklet from his own personal knowledge and observation. Parton, in his *Jackson*, complains that a truthful biography of George Washington cannot be written; those having personal knowledge of him, and competent to present him as he was, if they ever existed, had long since passed

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away. The thought is oppressive, that the author of the work before us should have gone to his reward before it was written. What other country has the medical history of its first hundred years? What other country on the earth's surface entwines the golden thread of medicine with the history of its birth and progress? Let the coming generations of physicians see to it that the foundation of their profession, so grandly laid, shall have the superstructure carried up by workmen that needeth not to be ashamed.

In the beginning of the century our medical literature was at zero. Says Dr. Gross:

"When the tocsin of war was sounded on this continent in 1775, by the rebels in arms against the mother country, the physician might have looked around in vain for a native medical book. The whole stock in trade was comprised in a few pamphlets on small-pox, measles, and scarlatina. Our literary and professional works, like our tea and coffee, sugar, and finer fabrics, came from Europe, especially England. Our dependence was absolute. In all the country there was but one medical school; and even this was soon suspended, the lecture-room having been exchanged for the hospital, and the lancet for the sword. There was work to be done. Three millions of human beings, groaning under the yoke of tyranny and oppression, were to be freed; the bond stipulated for blood; the professor's gown was replaced by the epaulette; and for seven long years, alternately marked by hope and despondency, silence reigned supreme in the halls of literature and science. Nor was there any improvement in this respect for a number of years after the struggle had ended. Men could not at once return to their accustomed habits and occupations. The country was impoverished and heavily in debt. Men had to provide bread for their families."

But the convulsion of revolution produced its medical Adam, so that in the beginning the father of medicine stood beside the philosopher of the heavens, and the sage and soldier of the ages, "Like the morning star, gilding the horizon with the effulgence of his genius." Says our author:

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"Benjamin Rush, a farmer's son, born within thirty miles of Philadelphia, a signer of the Declaration of Independence, and at first physician, and then surgeon of the Continental Army, is the father not only of American Medicine, but of American Medical Literature, the type of a great man, many-sided, far-seeing, full of intellect and genius; abused and villified, as man hardly ever was before, by his contemporaries, professional and non-professional; misunderstood by his immediate successors, and unappreciated by the present generation, few of whom know anything of his real character. In awarding to this great and good man this high honor, I am but rendering a bare act of justice to his memory. Rush inspired his pupils with ambition, and taught them how to think, for he was facile princeps, 'head and shoulders' above all his compeers as a medical philosopher."

"The text-books up to the close of the century must have been imported from England, which was itself but poorly supplied with medical works. The First Lines of the Practice of Physic, by the great Dr. William Cullen, of Edinburgh, was published in 1776, and was the first scientific production of the kind in the English language. This celebrated treatise was reproduced in the latter part of the last century in the United States, and for a long time held its place as a text-book both in Great Britain and on this side of the Atlantic. An edition of it, with notes and observations, from the pen of the late Professor Charles Caldwell, appeared in this city in 1816. Of the character and value of these additions, the editor evidently had a most exalted opinion; for he declares, in pompous phrase, that the work without his notes is dangerous in its effects on the inexperienced cultivators of science, imbecile in its practice, and marked, in many cases, by unqualified error, 'a fault that must necessarily have proved, in innumerable instances, signally mischievous in its influence on society.' Alas! poor Yorick, if he could have risen from the dead, and found himself thus criticised, and that too by a man who never had a hundred patients in his life, what mental torture would he not have experienced! The whole secret of this

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denunciation was simply to promote the sale of Caldwell's Cullen, as it was called."

"To Dr. Casper Winstar, Professor of Anatomy in the University of Pennsylvania, we are, as already stated, indebted for the first native work on anatomy ever published on this continent. It was issued in two parts in 1811, and in 1814 in two octavo volumes, under the title of 'A System of Anatomy' for the use of students of medicine, and before it had reached its third edition its lamented author had ceased to live."

"After Wistar's treatise appeared, in 1826, that of Dr. William E. Horner, then adjunct and subsequently sole professor of anatomy in the University of Pennsylvania, a work in two volumes, entitled 'Special Anatomy and Histology;' and then the elementary treatise of Morton, of Handy, of Richardson, and of Leidy, productions extensively employed as text-books, and composed, for the most part, by men of great reputation. The Atlas of Henry H. Smith and of Professor Horner, published towards the middle of the century, did good service in the cause of the anatomical student."

"On Surgical Anatomy no complete separate treatise has yet appeared by an American author."

"In pathological anatomy, the works of Horner, of Gross, and of Delafield, are the only ones from the pens of American writers."

"In General Anatomy the only native production is that of Professor Peaslee, of New York, published in 1857."

"Prolific as the American press has of late years been, it has not yet furnished us with any original treatise on microscopical anatomy. That such a work, if based upon original investigations, would be well received, does not admit of a doubt, and the time, I hope, is near at hand, when our young men will give the matter due attention. While upon this subject I may state that our Dutch brethren only a few weeks ago celebrated, at Delft, the second centenary anniversary of the discovery of microscopic animals by Leeuwenhoeck, a native of that town, and who was the first to direct attention to what

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is now a great science. What added to the interest of the occasion was the exhibition of the original instrument used by this great man in his examinations."

"If we turn to Physiology we shall find in our literature an abundance of material, worthy of any age or country. Commencing with the Human Physiology of Dunglison, we have the work of Martyn Paine, of wide scope and much erudition; of Dr. Draper, author of the immortal treatise on the Intellectual Development of Europe; of the admirable elementary treatise of John C. Dalton, the universal text-book of our schools, written in the purest and clearest English; and, lastly, the elaborate and exhaustive treatise of the younger Flint, in five volumes, upon the composition of which not less than twelve years of precious labor were consumed. Well written and elaborately treated, it is without a rival in the English language, and is destined to exercise a salutary influence upon the progress of physiology in the United States. I need say nothing here in the way of commendation of the work of the late Dr. Oliver, of Boston, or of the Institutes of Medicine of the late Dr. Gallup, of Vermont. The Human Physiology of Dr. Robley Dunglison, issued in two volumes, in 1832, has, in my opinion, not been equalled in erudition and scholarship since the days of Haller."

"Chemistry cannot boast much of its literary career on this continent. Its systematic works are few, and, with several exceptions, of no special credit as national productions."

Dr. Benj. Rush was the first professor of chemistry in the United States, being appointed to that Chair in the University of Pennsylvania, 1769.

"Our literature is opulent in works on materia medica and therapeutics, of which that of Dr. Nathaniel Chapman, of this city, the earliest of all, was issued, in two volumes, in 1817–19."

"The popularity of the works of Chapman and Eberle was very great, and that of the latter was accorded the honor of a German translation at Weimar soon after its appearance in this country."

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"The latest production upon this subject is the excellent work of Dr. Horatio C. Wood, the only one, I believe, in the English language, which treats fully of the physiological action of drugs."

"I look upon the Practice of Medicine of Eberle, issued in 1831, as forming an era in the medical literature of this country. It appeared in two volumes, and passed through not less than five editions during the author's lifetime, another having been issued after his death, with notes and additions by his friend and former colleague, the late Professor George McClellan. The work was long used as a text-book in our schools, was written in a lucid, classical style, and filled a void in our medical literature, universally felt at the time of its publication."

"Almost simultaneously with the admirable work of Eberle, appeared that of Dr. W. P. Dewees, entitled 'A Practice of Physic,' in two volumes, the author being at the time Adjunct Professor of Midwifery in the University of Pennsylvania."

"A reviewer in the *North American Medical and Surgical Journal*, in commenting upon the subject, fitly remarks: 'Addison and Johnson have been little imitated in its pages; we must take the work as we find it; be thankful; and, with honest Sancho, exclaim, God bless the giver.'"

"In 1832, Dr. Samuel Jackson, Professor of the Institutes of Medicine in the University of Pennsylvania, published a volume entitled the 'Principles of Medicine,' a work so thoroughly tinctured with the doctrines of Broussaism that, although it sold rapidly, it completely disappointed the expectations of the profession."

"In 1842, Professor Dunglison favored the profession with a treatise on the Practice of Medicine, in two volumes, extensively used as a text-book by the students of this College, in which the illustrious author was so long a professor. The work, written in the elegant and lucid style for which he was so justly distinguished, reached its third and last edition in 1848, six years after the first.

"Sixteen years had elapsed since the appearance of the

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treatises of Eberle and Dewees, when the great work of Dr. George B. Wood, at the time Professor of Materia Medica in the University of Pennsylvania, was ushered into existence. Issued in two portly volumes, written with great care and finish, characterized by a lucid, elegant, and scholarly style, systematic in the arrangement of its subjects, and exhaustive in its scope, it at once addressed itself to the good sense of the profession, and speedily became the leading text-book of the schools. Many copies of it found their way into Great Britain. Edition after edition, each succeeding one a great improvement upon the preceding, appeared, until 1866, when the sixth and last was issued. As a faithful embodiment of the art and science of medicine of the middle of the present century, the treatise of Dr. Wood cannot be too highly estimated. I know of no contemporaneous work upon the same subject, in any language, at all equal to it.

"The Elements of Medicine by Dr. S. Henry Dickson, the first edition of which was issued in 1855, while the author was a resident of Charleston, is a work of great merit; but, from some cause or other, was never fully appreciated by the profession."

"The work of Dr. Austin Flint must speak for itself. Having from an early period of his life been a public teacher, a hospital physician, and a close observer of disease, it is not surprising that he should have produced a work of matchless ability, far in advance, in point of diagnostic and nosographic accuracy, of any treatise of equal bulk in the English language. A sufficient evidence of popularity, and of the estimate placed upon it, is the fact that it is already in its fourth edition, the first having been struck off in 1866. I regard it as by far the most original treatise on the principles and practice of medicine ever published in this country, an opinion in which I am supported by the entire profession.

"The Essentials of the Principles and Practice of Medicine, by Professor Henry Hartshorne, is a work of great popularity, well and concisely written, a fourth edition having lately appeared within a short period of the original issue.

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It is emphatically a handy-book for students and practitioners.

"Professor N. S. Davis, of Chicago, several years ago, published a volume on Clinical Medicine, which recently passed to a second edition. As a record of the experience of the distinguished author, running through a period of forty years, in a large private and hospital practice, the book possesses no ordinary value."

"We talk of the writings of Scott, of Cooper, of Irving, and of Dickens, as something extraordinary, if not gigantic, and so in truth they are; but here is a work of which even few professional men have ever heard, and of which the public is wholly ignorant, which cost its accomplished author an amount of brain-labor far greater than any ever experienced by these great men, who are worshipped almost as demigods. One page of the treatise of La Roche on yellow fever, one of the great scourges of the human race in tropical climates, embodies more toil, more close thinking, more accurate statement of facts, than any chapter of fiction that has ever been written. The work is a model of its kind, reflecting the highest credit upon our national literature."

"The style was strongly Anglo-Saxon, like everything Drake ever wrote, and the arrangement of its topics was admirable. The materials of which it was composed were collected, for the most part, by personal intercourse with the physicians of the States and Territories which he visited for the purpose, a novel mode, seldom practiced, of acquiring information. The whole profession of the interior valley of North America was thus laid under contribution. I consider the work a great performance, and I am sure that future ages will agree with me in my estimate of its high value."

"In his surgical studies, prior to the early part of the present century, the American student relied solely for his knowledge upon the reprints of foreign works. In native productions, of late so numerous, and, I may add, so creditable to the country, Dr. John Syng Dorsey, the nephew of Physick,

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and Adjunct Professor of Surgery in the University of Pennsylvania, led the way."

"The treatise of Dorsey was succeeded by the Institutes and the Practice of Surgery, by Dr. William Gibson, also a professor in the University of Pennsylvania, the first volume having appeared in 1824, and the second in 1825. In its original form the work was inexpressibly meagre, if not contemptible—utterly unworthy of the high position occupied by its author, introduced into the school as the successor of Physick."

"Of the Principles and Practice of Surgery of the late Dr. George McClellan, my old master, the founder of this college, a brilliant lecturer, as expert operator, a man of rare genius, it would not become me to speak. It was an incomplete production, hastily written, and should never, in my opinion, have been published."

"In 1859 appeared the work of S. D. Gross, followed in rapid succession by that of Henry H. Smith, of John Ashhurst, and of Frank H. Hamilton; treatises the bare mention of which must suffice for my present purpose.

"The works of Professor Geddings, of Charleston, South Carolina, and of Dr. John Hastings, U. S. N., require no special notice. The former was intended as an outline of the course of lectures annually delivered by its distinguished author, and the latter as a brief resumé of the art and science of surgery as it existed a quarter of a century ago. Neither of these works has reached a second edition."

"The literature of operative surgery has been illustrated by the labors of the elder Pancoast, and, more recently, by those of Dr. Henry H. Smith and Dr. John Packard. The first edition of Professor Pancoast's splendid work, a work which has achieved for him a world-wide reputation, was issued in 1844, and the last—the third—in 1852."

"Dr. Henry H. Smith, in 1852, published a System of Operative Surgery, and, four years afterwards, a treatise on Practical Surgery, which, in 1863, were incorporated in one common treatise in two volumes, under the title of the Princi-

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ples and Practice of Surgery. The work is beautifully illustrated, and is particularly valuable on account of its literary and historical references."

"In 1857 Professor Paul F. Eve published a 'Collection of Remarkable Cases in Surgery,' forming an interesting and instructive volume, the matter of which is generally given in the language of the respective reporters, with occasional comments by the distinguished editor. As a book of reference, it possesses great value, exhibiting, as it does, on the one hand, the blunders in diagnosis and practice of eminent surgeons and physicians, and, on the other, the wonderful recoveries that not unfrequently occur after injuries and operations, apparently under the most adverse circumstances."

"The list of works on military surgery published during our late war, is quite formidable, although the works themselves are comparatively slender, most of them having been written to meet an approaching emergency felt by our surgeons."

"Of my own booklet several thousand copies were disposed of during the war, and I have now on my table a copy of a translation of it into the Japanese language, accompanied by a letter from our Minister at Tokei, and one from the Surgeon-General of the Japanese army, informing me of the rapid progress which the Japanese people are making in the civilization of the western nations."

"The 'Manual of Military Surgery,' by Dr. J. Julian Chisholm, issued in 1861, at Columbia, South Carolina, was the text-book of the Confederate military surgeon during the late war, and is a work of superior merit, comprised in a duodecimo volume of 529 pages, profusely illustrated, and interspersed with brief details of interesting cases. It had passed, within three years of its publication, into a third edition. The treatise has everywhere received high commendations, especially from foreign critics. All these productions, however, excellent as they are, are thrown into the shade by the Medical and Surgical History of the War, authorized by

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Congress in 1869, and issued under the supervision of Dr. Barnes, Surgeon-General U. S. Army."

"Obstetric Medicine may justly boast of a number of works, which enjoy not only an American but European reputation. Dr. Samuel Bard, a professor in the Medical College of New York, is entitled to the credit of having been the first physician in this country to write upon the subject, his little treatise having appeared in 1807, in a duodecimo volume of 239 pages, under the title of 'Compend of the Theory and Practice of Midwifery.'"

"The man who imparted the first real impulse to our obstetric literature, and who elevated its practice to the highest rank, was Dr. William P. Dewees, at first adjunct-professor and then sole professor of midwifery in the University of Pennsylvania. He was the prince of obstetric practitioners in this country. No lady in Philadelphia was considered as safe or fashionable if she was not attended in her accouchement by Dewees. He delivered, it is affirmed, at least ten thousand women during the active period of his professional life. He was the first on this continent to render midwifery truly respectable as an art and as a science. From his authority there was no appeal. By his writings and his teachings he rendered himself famous, both at home and abroad. Dewees was at once a dogmatist and a merciless critic. He cut right and left, fore and aft, sparing neither friend nor foe, native or foreigner. Everybody swore by Dewees, and Dewees swore by himself. For a third of a century his reign was supreme and undisputed. America had a school of midwifery, the creation of Dewees, who was at the same time its autocrat and its preserver. His celebrated System of Midwifery, issued about 1824, had, in 1854, thirteen years after the author's death, reached its twelfth edition, an honor rarely, if ever, bestowed upon any similar work. The style of this treatise, like that of everything he ever wrote, was slovenly and highly inaccurate. This man, often called the Baudelocque of America, so illustrious in his day, and so much caressed by the citizens of Philadelphia, died in 1841, at the

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age of seventy-three, in a state of poverty and mental imbecility.

"The work of Dewees was followed by those of Meigs, Bedford, Henry Miller, Hodge, Byford, and Elliot; treatises which reflect great credit upon their respective authors, and embellish our national medical literature. The work of Dr. Henry Miller was honored, soon after its publication, with a reprint in London."

"Of all these treatises that of the learned and excellent Dr. Hodge is, perhaps, the most elaborate and scholarly, as it certainly is the most elegant."

"In connection with obstetric literature may be mentioned an elaborate and instructive volume, published, in 1848, by Professor Walter Channing, of Boston, entitled a 'Treatise on Etherization in Child-birth,' illustrated by 581 cases."

"To Dr. J. Marion Sims belongs the honor of having been the first to write a book in the English language on uterine surgery.

"A treatise on the diseases and displacements of the uterus, under the title of Hysterology, was published in 1872, by Dr. E. N. Chapman. J. Randolph Peaslee and Washington L. Atlee have produced able treatises, respectively, on ovarian tumors and the diagnosis of ovarian diseases; and Professor Barker, of New York, has recently furnished us with a classical and learned monograph on the puerperal fevers, already translated into several of the continental languages of Europe. I should be unjust to my feelings if I did not allude here, in connection with the diseases treated of by Professor Barker, to the admirable brochure upon the same subject by Professor Oliver Wendell Holmes, of Boston. A more able, philosophical, and convincing pamphlet, or one more opportune, is not to be found in our literature."

"Hygiene, electricity, yellow fever, and cholera," to which the author devotes many pages, though rescuing much curious matter from oblivion, and to that extent valuable, we find but little that could interest our readers, and the same may be said of the section on "Medical Biography and Miscellaneous Sub-

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jects," as well as that on "Translations and Reprints," exceptional that Dr. Charles Caldwell was a pioneer in that branch of literature which always seemed to us like second-hand clothes *fresh* from the slop-shop. As a reviewer, our author says of Dr. Caldwell that "he was often caustic, sometimes bitter and sarcastic, on special occasions sharpening his pen upon a brickbat, or dipping it into gall," and it is added of this remarkable man, that "he was all his life, an unusually long one, a book-worm. His mind was never distracted by practice, for he had none. He was, therefore, eminently a man of leisure, the master of his own time, and could thus devote himself, heart and soul, to the pleasures of his pen. * * As a teacher of physiology, which he expounded for upwards of a third of a century, I have no hesitation in saying that, when he retired from the University of Louisville, he was twenty-five years in arrear of the existing state of the science. * * As a writer, his style was diffuse, inflated, verbose, and, in the latter periods of his life, simply execrable. His dedication to Chapman, of his edition of Cullen's Practice of Medicine, was a fulsome and unmanly performance, beneath the dignity of a gentleman, dedicated, as it was, by self-interest founded upon a promise that the work should be recommended as a text-book in the University of Pennsylvania, for a chair in which he was, for many years, an aspirant. His autobiography, published after his death, which occurred at Louisville, in 1853, at the age of 81, was composed in the worst possible taste, and is a libel upon most of the medical men with whom he was brought into contact. * * I may add that Caldwell was a gentleman of the old school; he had a splendid physique, a keen, penetrating black eye, and a large head, with the most courtly manners, and great colloquial powers. He had seen much of good society at home and abroad, could converse fluently and intelligently upon almost any subject that was presented to him, and was thoroughly a man of the world. I may also add that he was one of the vainest of men; and then, to complete the picture, I should add that he had something to be vain of."

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From the Section on Medical Journals we take only the account of the *auctor princeps* on our continent:

"The first medical journal published in the United States was the New York Medical Repository, edited by Samuel Latham Mitchill, Edward Miller, and Elihu H. Smith, men of great celebrity in their day. It was begun in 1797, and continued for upwards of twenty years, often amidst great difficulties, as is generally the case with such enterprises."

Dr. Gross thinks that the number of existing medical journals in the United States is about one hundred, and adds, "that we rarely meet with an instance in which their pages are tainted with literary jaundice or polluted by ribaldry and personality." We can conscientiously endorse the truth of this statement, as well as of that which follows: "The wholesome influence exerted upon some of these journals by the American Medical Editors' Association, lately instituted, is already apparent." This Society was instituted at the meeting of the American Medical Association, at New Orleans, in 1869.

The next Section of our author is on Medical theses. Says the author:

"There is a species of medical literature peculiar to medical pupils, which, unfortunately, as I conceive, found its way into the New World from the Old, at the very commencement of the organization of our first medical school. I allude to what are called medical theses, or inaugural dissertations, the bugbear of the student and the nuisance of the professor. Of this variety of medical literature our colleges have huge piles, especially the older and more popular ones; for every spring, in the Ides of March, large additions are made to their archives, usually badly written, not unfrequently ungrammatical, generally devoid of scientific information, and of no use to anybody, for it is not too much to say that not one in fifty affords the slightest evidence of competency, proficiency, or ability in the candidate for graduation. Often, indeed, they are not even composed by him; and occasionally, as I know from personal observation, they are plagiarized or copied, it

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may be verbatim, from such books as are within his reach, if not actually from the works of his preceptors. Happily, for the credit of the schools, few of these productions find their way into print. In the early history of medical teaching in this country the theses were generally written in Latin, as is still the case in some of the schools of Europe; and it was the custom, for a time at least, for the more prominent students to defend them publicly on commencement day. * * It would be well if, on the birth-day of American Independence, a bonfire could be made of this trash, as it exists, without exception, in all our medical schools; and it is devoutly to be wished that the regulation which prescribes the presentation of the inaugural dissertation were abolished."

The University of Nashville took the liberty and responsibility of doing this identical thing long ago, and this reviewer placed upon record shortly after (December, 1866,) the following defence of that action:

"What will Europe say, it is suggested, at this horrible vandal innovation of abolishing theses? More than a quarter of a century ago we wrote an article exposing the folly of Medical theses. Last year the South Carolina Medical College threw this European folly overboard, caring, we presume, very little at that particular time what Europe would think. Many of her sons were dead. Time was precious with those left alive, and the college wisely resolved that it was wrong to take a moment for any foolish routine purpose whatever from those that flocked to it. For the same reason our College did the same thing. Should time ever again become of no value as it was with our European semi-barbarian ancestors, and as Dr. Livingstone says it now is with the natives of Africa, and we should be alive, why we will advocate a return to theses. Even in Goldsmith's time he found theses on the continent of value to him. He got pay for disputing with the authors of theses, and was thus said to have disputed his way through Europe. But now, when the Dean slips a theses, put up in ribbons, and with printed title page, in a "pigeon hole," to sleep its long sleep, knowing it cost its author so much precious

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time, he is obliged to feel, if not void of sensibility, that he and his colleagues are, to that extent, time-robbers. The reason for theses no longer exists—the substance is gone; let the shadow go with it."—*Nashville Journal of Medicine and Surgery*, December, 1866.

"Among the great thinkers," says our author, "of the medical authors of the century I unhesitatingly place in the highest rank, among the honored dead, Rush, Drake, and Caldwell; and, among the living, Martyn Paine and John W. Draper; as medical observers, W. W. Gerhard, the two Flints, John C. Dalton, J. M. Da Costa, T. G. Wormley, Brown-Séquard, W. A. Hammond, and S. W. Mitchell."

"The copyright of Eberle's treatise on materia medica, an eminently successful work in its day, was sold for two hundred dollars; and I do not think the sale of the two bulky volumes of Drake, embodying the results of the labors of a whole lifetime, re-imbursed him for one-tenth of the sum expended in collecting the material."

"If we compare the medical literature of America with that of Europe during the last hundred years, we shall have much cause for self-gratulation. In England, and, indeed, I may say on the continent, the exhibition prior to the close of the present century was, in truth, a slender one, not at all flattering to the pride of our trans-Atlantic cousins. In Great Britain the works of Cullen and of Benjamin Bell were literally the first attempts at systematic medical authorship."

The author shows how books are made by working men. He says: "To the question so often asked me, how I have been able to write so much, my answer invariably has been, because I have labored systematically, while other men were asleep, smoking their cigar, lounging about the house, or spending the evenings in amusement. A vast amount of this work has been done in my carriage, in the daily rounds among my patients, not in actual writing, but in arranging and digesting my material, which, after reaching my office, I seized the earliest moment to commit to paper. In this manner a man may perform a large amount of literary labor in the twenty-four

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hours. The brain of a busy man is never idle. I have worked out many a sentence in my sleep."

"My own library contains about 4,500 volumes, rich in surgical literature. The library of Dr. Purple, of New York, consisting of 6,000 volumes, contains a complete file of American journals, and the transactions of American Societies, with an extensive collection of English, Scotch, and Irish periodicals."

"Dr. Dunglison's library consisted of nearly 5,000 volumes, and comprised the choicest works in almost every branch of medicine."

"The late Dr. Hosack, of New York, the wealthiest member of the profession in his day in this country, had a library of 2,500 volumes; Dr. John B. Beck, of 2,000; Dr. Francis, of 3,000; Dr. John Watson, of 2,300."

"The library of the late Dr. Charles A. Luzenberg, of New Orleans, was one of the largest and choicest private collections of medical books ever made in this country."

"The library of the late Dr. J. Collins Warren, of Boston, comprised 6,000 volumes."

"The first medical school on this continent was the University of Pennsylvania, founded in 1765."

"Of the number of medical schools at present in existence in the United States I am not accurately informed; it is probably not far short of eighty."

Speaking of medical societies, our author says: "The first successful one was the Medical Society of New Jersey, which was organized 1766. * * The Massachusetts Medical Society was incorporated by an act of the Legislature in 1781."

"The doctrine of solidism had at one time an exclusive reign both in Europe and in this country, where its last advocates were Nathaniel Chapman, Charles Caldwell, and John P. Harrison, men who adhered with bull-dog tenacity to their foolish creed."

"John Esten Cooke, of Lexington, Kentucky, asserted that all maladies depended upon obstruction of the portal circulation, or disorder of the liver, and contended with all the ardor

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of a devotee that the only remedies necessary for their relief were rhubarb, aloes, and calomel, or the R. A. C. pill as it was called by him and his followers. Benjamin W. Dudley, the famous lithotomist, one of the founders of Transylvania University, and a colleague of Cooke, had unbounded faith in the treatment of diseases, surgical as well as medical, by the use of bran gruel, blue milk, and boiled turnips, calomel, tartar emetic, and absolute and protracted rest. These heroic measures, the offspring of great men's brains gone mad, gradually gave way to the practice of almost unconditional stimulation, which for upwards of a quarter of a century has enslaved the professional mind of Europe and this country, and which, without exaggeration, it is safe to say, counts its victims annually by thousands."

To define the peculiarities of practice of the present day the author would "say that they consisted in a reckless spirit of experimentation, in loose observation, in unfounded statements, in inefficient practice, and in hasty generalization. Our times abound emphatically in false facts."

"Dentists can hardly be said to be specialists; it is true the more refined and conscientious confine themselves strictly to the treatment of the teeth; but so much of their work is mechanical that no general practitioner of medicine, at all extensively occupied, could give it the requisite attention. Every body, sooner or later, has need of this class of professional men, for every adult has thirty-two teeth, which, however sound, require occasional supervision to keep them in order. On the other hand, comparatively few persons suffer from cataract or cancer of the eye, morbid growths of the larnyx, diseases of the ear, or ulceration of the uterus. I venture to affirm that Dudley, who was a general practitioner of medicine and surgery, extracted a stone from the bladder with as much dexterity as any specialist that ever lived; and I am quite sure that no oculist, so called, one exclusively devoted to the practice of ophthalmic medicine and surgery, ever extracted a cataract with more skill than the Emeritus-Professor of Anatomy in this school. I am sure it requires only the

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smallest amount of brains to make a specialist." The author quotes Dr. Barnes: "If some adventurous doctor should determine to have a new specialty, and open an institution for the treatment of diseases of the umbilicus, the only region which is unappropriated, I think I could promise more than one patient," and adds: "Dr. Barnes is in error. The vermiform appendix has no specialist."

We have thus extracted from this latest labor of the great surgeon of our country, what we felt the readers of this journal would be pleased to see. It is a paper at once taxing research and recollection, and save that it may be slightly too patronizing, and as slightly blurred with a modicum of defective grammar, it is well calculated to add to the author's fame.

W. K. B.

PHOSPHATES IN ALBUMENURIA.

We noticed some days since, in a British journal which we have mislaid, an announcement of a wonderful chemico-physiological discovery in regard to the relation of phosphates to the blood, and their remedial action in dropsy and albumenuria. Now we have for the past two years been advocating this principle, and have, from time to time, detailed experiments in proof of the position. We care nothing for the honor of discovery, but we do protest against that wholesale ignoring of American medical literature by English journals, which keeps their readers in ignorance of all that is done for the advancement of the science on this side thewater.

T. O. S.

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THE PAIN OF RHEUMATISM.

In the whole realm of nosology there is, perhaps, no disease which yields less to treatment than rheumatism. The patient becomes discouraged, the doctor worried, and there is, indeed, but little show for that display of medical skill which acute diseases so characteristically afford. For a long time we were entirely at sea in regard to the pathological conditions lying back of rheumatic manifestations, but after the establishment of the fact of migration in regard to the white blood corpuscles we are no longer at a loss for an explanation of rheumatic pathology.

It is well known that in rheumatism, gout, and scrofula, the proportion of the white to the red corpuscles of the blood is very much increased. The normal relation is generally set down as one white to three hundred red. This we believe to be too great. After extended investigations we have concluded that in a state of perfect health the normal proportion is one white to six hundred and seventy red. The researches of many German pathologists show even a smaller proportion of the white to the red than this. In estimating the number of the corpuscles we have followed the method suggested by Vierordt. We give it as used in his laboratory:

A measured volume of blood is diffused as equally as possible in a thousand times its volume of an indifferent fluid (six grammes of chloride of sodium in one litre of water); a small quantity of the mixture is taken up in a capillory tube of known calibre, and the length of the thread of fluid is estimated under the microscope by means of a micrometer. When the contents of the tubule have thus been ascertained, they are quickly distributed, with a little solution of gum upon a slide, and the whole is allowed to dry. The preparation is covered

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with a micrometer divided into squares, and the corpuscles in the several squares can then be successively counted. In one experiment Vierordt used 0.0005—0.0008 cubic millimetre of blood, in which about from 2,000 to 3,000 corpuscles were counted in the space of an hour.

Accurate means of determining the relative proportion of the white and red corpuscles, we have found that in very many diseases the change in this normal proportion is so concomitant and constant as to furnish us with indubitable pathological symptoms leading to the conditions of morbid action. In addition to the proportionate increase of the white corpuscles, there is another attendant fact depending upon the expansion of the venous wall which brings us at once to the solution of the problem of rheumatic pain. It is well known that white blood corpuscles are capable of what is called *migration*—that is, they penetrate through the walls of the vessels, generally through those of the venous radicles and pass out in the surrounding tissues. Especially is this liable to take place in the parts about the articulations, where the circulation is more interrupted. When these corpuscles pass into the surrounding tissues they do not lose their vitality, but by absorption of fluid they swell to an enormous size, pressing aside the surrounding tissues in the soft parts, but cartilaginous structure meeting with great resistance, we are at no loss to account for the intense agony which attends their efforts to swell and perform the amœboid movements by which they are characterized.

T. O. S.

BOOK-NOTICES are unavoidably laid over until the next number.

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TO OUR READERS.

THE next number of the JOURNAL will commence the Seventeenth Volume of the New Series, and with it we commence the *cash in advance* principle, now universally established, as we believe, throughout the world, by newspapers and periodicals.

We are compelled to adopt this plan for self-protection. Nearly five thousand dollars are due us for subscription to the JOURNAL, while *we pay cash* for the work. We cheerfully give our services gratuitously, but our readers will surely not expect us to publish a journal such as ours without at least receiving compensation for the outlay for which we are responsible. We have subscribers enough to pay, but many of them are dilatory in sending in their annual subscriptions, and some of them, we are sorry to say, appear to have but a poor idea of the maxim—"Do unto others as you would wish them to do unto you."

The January and succeeding numbers will be printed on new type, and will contain a number of original papers peculiarly interesting to the profession.

Again we ask our readers to forward their subscriptions as soon as possible.

W. T. B.

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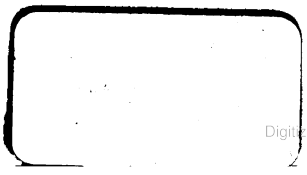

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